

Illinois U Library

COMMERCE

M A G A Z I N E

How DPA Helps Plant Builders . . .

The Key To Good Management . . .

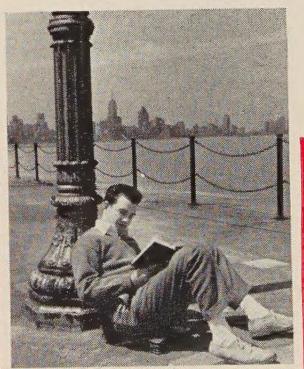
Up With The Helicopter!

Behold The Plastic Films

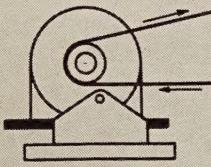
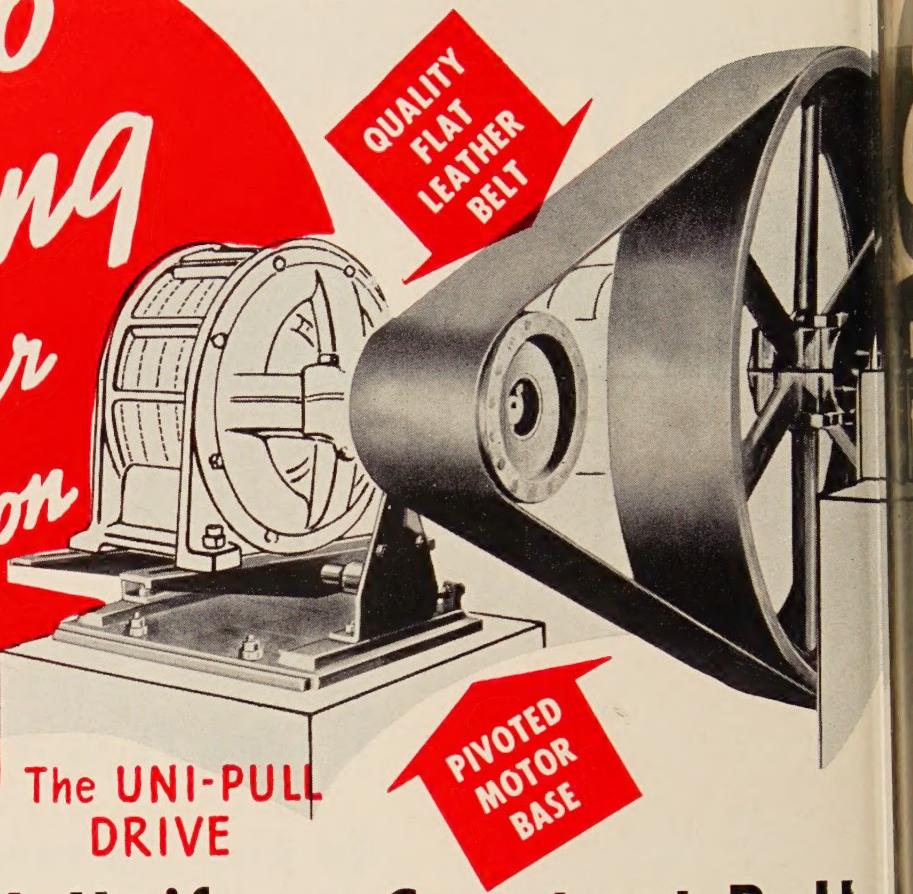
Colleges Are In Financial Trouble .

SEPTEMBER, 1951

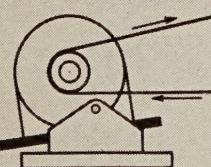
35 CENTS



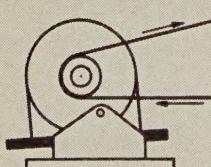
*Chicago
Belting
-for Greater
Production*



This pivoted motor base



... makes the belt "lean"
into the heavy loads



... then lets it "relax" when
the load returns to normal.

A Uniform Constant Pull Transmits MORE Power!

How can the Uni-Pull Drive deliver more power and greater production?

1. By maintaining "correct tension" at all times. The tension-control motor base illustrated above automatically increases and lowers tension hundreds of times every hour. The "correct tension" operates MOST efficiently—low enough to prevent wear on motor, machine bearings and belt—high enough to prevent belt slippage.

2. CHICAGO BELTS, designed for Uni-Pull, provide undivided pulling power across and around the pulleys. There are no separate tensions as in multiple pull drives. Chicago Belting out-wears and out-lasts non-leather belting two to one by our tests and records. They require less maintenance and will deliver many years of carefree economical power transmission in your plant.

The swing is to Uni-Pull and Chicago Belting

Write or phone MOnroe 6-5050 and
get all the facts from one of our
Sales Engineers — No Obligation.

CHICAGO BELTING COMPANY
MANUFACTURERS OF LEATHER BELTING AND LEATHER PACKING
GREEN & WASHINGTON STREETS, CHICAGO

Englewood

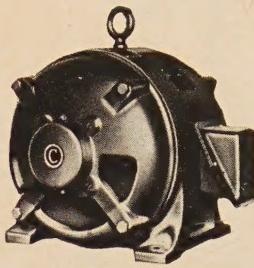
makes it easy to select
the right motor for the job
—from the complete line of

Century

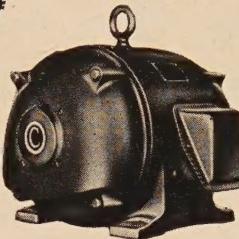
TRADE MARK

MOTORS

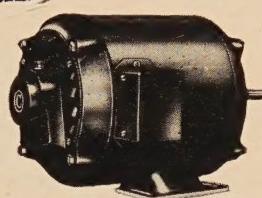
It's easy to select the right electric motor from the wide range of types, in sizes from $\frac{1}{8}$ to 400 H.P. All popular types are available in fractional and integral sizes—AC and DC—in all standard frames and mountings. Consult Englewood now.



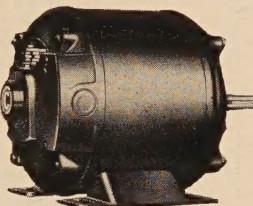
TYPE SC—Open Drip Proof, General Purpose Motor. Meets the needs of most installations where operating conditions are relatively clean and dry. 1 to 400 H.P.



TYPE SC—Splash Proof. Supplies protection where plants must be washed down. Keeps out splashing liquids—rain, snow, sleet, etc. 1 to 400 H.P.



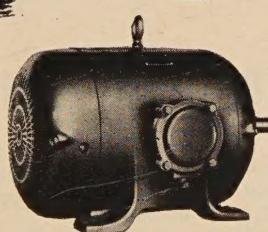
TYPE RS—Repulsion Start, Induction, Single Phase Brush Lifting Motor suitable for applications requiring high starting torque and low starting current. $\frac{1}{2}$ to $\frac{3}{4}$ H.P.



TYPE SP—Split Phase, Induction, Rigid Base, Single Phase Motors suitable for light starting duty. $\frac{1}{6}$ to $\frac{1}{3}$ H.P.



TYPE SC—Totally Enclosed Fan Cooled. Protects against dust, mist, oil fog. Inner frame protects vital parts of motor, seals out harmful matter. 2 to 50 H.P.



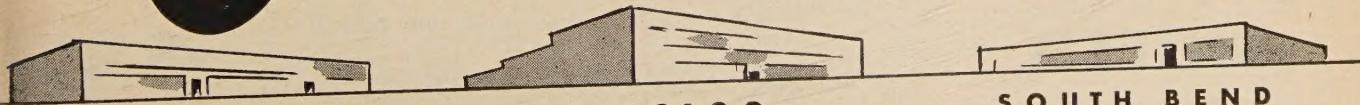
TYPE SC—Explosion Proof. Protects life and property in atmospheres charged with explosive dust or gases. 2 to 50 H.P.

TYPE CSH—Capacitor Start, Induction, Single Phase Motor suitable where high starting torque and normal starting current is required. $\frac{1}{6}$ to 20 H.P.

TYPE SR—Wound rotor. Ideal for applications requiring low starting current with high starting torque, reversing or adjustable varying speed. 1 to 400 H.P.

3 COMPLETE STOCKS TO DRAW FROM

Englewood ELECTRICAL SUPPLY CO.



ROCKFORD
124 N. FIRST ST.
ROCKFORD 3-5441

CHICAGO
5801 S. HALSTED ST.
ENGLEWOOD 4-7500

SOUTH BEND
325 N. LAFAYETTE BLVD.
PHONE 4-1173



**United has
Nonstop
Flights
all around
the clock
to New York**



What's the most convenient time for you to leave when you go to New York? Whenever it is—in the morning, at noon, in the afternoon or in the evening—just call Franklin 2-4900 for reservations on a luxurious DC-6 Mainliner 300. You get there in only 2 hours 55 minutes, and fares are lower than 1st-class rail with lower berth!

**UNITED
AIR LINES**

STATISTICS OF CHICAGO BUSINESS

| | July, 1951 | June, 1951 | July, 1950 |
|--|-------------------|-------------------|-------------------|
| Building permits | 700 | 900 | 1,200 |
| Cost | \$ 10,626,185 | \$ 21,400,754 | \$ 29,693,100 |
| Contracts awarded on building projects, Cook Co. | 1,737 | 1,571 | 1,800 |
| Cost | \$ 38,790,000 | \$ 40,058,000 | \$ 51,035,000 |
| (F. W. Dodge Corp.) | | | |
| Real estate transfers | 6,837 | 6,924 | 7,200 |
| Consideration | \$ 5,484,428 | \$ 6,098,844 | \$ 6,277,773 |
| Department store sales index (Federal Reserve Board) (Daily average 1935-39 = 100) | 184.6* | 220.1 | 200 |
| Bank clearings | \$ 3,620,713,359 | \$ 3,593,321,668 | \$ 3,329,414,000 |
| Bank debits to individual accounts: 7th Federal Reserve District | \$ 18,946,520,000 | \$ 20,227,410,000 | \$ 16,640,665,000 |
| Chicago only | \$ 9,479,391,000 | \$ 9,886,324,000 | \$ 8,058,309,000 |
| (Federal Reserve Board) | | | |
| Midwest Stock Exchange transactions: | | | |
| Number of shares traded | 1,197,116 | 1,050,000 | 1,469,000 |
| Market value of shares traded | \$ 35,600,795 | \$ 35,604,193 | \$ 44,050,493 |
| Railway express shipments, Chicago area | 756,476 | 836,600 | 869,660 |
| Air express shipments, Chicago area | 45,481 | 52,000 | 48,660 |
| L. C. L. merchandise cars | 17,744 | 17,905 | 19,440 |
| Electric power production, kwh | 1,089,107,000 | 1,104,190,000 | 997,874,000 |
| Industrial gas sales, therms | 11,121,615 | 11,912,419 | 8,581,550 |
| Revenue passengers carried by Chicago Transit Authority lines: | | | |
| Surface division | 46,051,991 | 49,733,764 | 49,464,430 |
| Rapid transit division | 11,513,194 | 12,220,850 | 11,057,550 |
| Postal receipts | \$ 7,991,504 | \$ 9,331,533 | \$ 7,847,330 |
| Air passengers: | | | |
| Arrivals | 198,279 | 202,840 | 157,480 |
| Departures | 208,524 | 210,170 | 165,750 |
| Consumers' Price Index (1935-39 = 100) | 192.3† | 191.3† | 179.9 |
| Livestock slaughtered under federal in- spection | 400,371 | 440,334 | 398,171 |
| Families on relief rolls: | | | |
| Cook County | 21,670 | 22,139 | 29,030 |
| Other Illinois counties | 13,415 | 13,794 | 18,220 |

*Preliminary figure.

†Figures are on same basis as year ago. New indexes are 190.9 for July, 1951 and 190.1 for June, 1951.

OCTOBER, 1951, TAX CALENDAR

| Date Due | Tax | Returnable to |
|----------|--|--|
| 15 | If total O.A.B. taxes (employer and employee) plus income tax withheld in previous month exceeds \$100, pay amount to or remittance may be made at end of month with quarterly return directly to | Authorized Depository Collector of Internal Revenue |
| 15 | Illinois Retailers' Occupational Tax return and payment for month of September | Director of Revenue Collector of Internal Revenue |
| 15 | Quarterly payment of estates tax | Director, Department of Labor Collector of Internal Revenue |
| 31 | Illinois Unemployment Compensation contribution report and payment for third quarter of 1951 (UC-3 and UC-40) | Director, Department of Labor Collector of Internal Revenue |
| 31 | Fourth quarterly installment on 1950 Federal Unemployment Compensation Tax | Collector of Internal Revenue |
| 31 | Quarterly return and payment (by depositary receipts or cash) of income and O.A.B. taxes withheld by employers for third quarter of 1951 (Form 941) Domestic Help (Form 942) | Collector of Internal Revenue |
| 31 | Federal Excise Tax return and payment due for September, 1951 | Collector of Internal Revenue |

COMMERCE

MAGAZINE

PUBLISHED SINCE 1904

BY THE CHICAGO ASSOCIATION OF COMMERCE AND INDUSTRY
 1 NORTH LA SALLE STREET, CHICAGO 2 • FRANKLIN 2-7700

VOL. 48

NO. 8

SEPTEMBER, 1951

CONTENTS★

- | | |
|-------------------------------|---------------------------|
| Colleges Face Famine | |
| Midst Plenty | By Daniel F. Nicholson 13 |
| A "Baby RFC" For | |
| Plant Builders | By Mitchell Gordon 15 |
| Up With the Helicopter | By Charles Furcolow 16 |
| Behold The Plastic | |
| Films | By Benjamin Melnitsky 18 |
| Key To Good Management | By John A. Patton 21 |
| Meet IMC: They Allot The Free | |
| World's Stock of Scarce | |
| Materials | By Jack Robins 23 |

REGULAR FEATURES★

| | |
|---|----|
| Statistics of Chicago Business | 2 |
| The Editor's Page | 7 |
| Here, There and Everywhere | 8 |
| Trends in Finance and Business | 10 |
| Invest—In the Middle West | 35 |
| Industrial Developments in the Chicago Area | 41 |
| Transportation and Traffic | 45 |
| New Products | 48 |
| Stop Me—if | 56 |

Alan Sturdy, Editor

Lewis A. Riley, Associate Editor

Gordon Rice, Advertising Manager



Published monthly by The Chicago Association of Commerce and Industry, with offices at James and North Cook Streets, Barrington, Ill. and 1 North LaSalle Street, Chicago 2, Ill. Subscription rates: domestic \$3.50 a year; three years \$7.50; foreign \$4.50 a year; single copies 35 cents. Reentered as second class matter June 2, 1948, at the Post Office at Barrington, Ill., under the act of March 3, 1879. Copyright 1951, by the Chicago Association of Commerce and Industry. Reprint permission on request.

Executive and Editorial Offices: 1 North LaSalle St., Chicago, Telephone Franklin 2-7700. Night Telephone: Editorial, Franklin 2-7717; Advertising, Franklin 2-7711. Neither Commerce nor The Chicago Association of Commerce and Industry sponsors or is committed to the views expressed by authors. Cover design copyrighted.

POSTMASTERS ATTENTION: Copies returned under labels Form 3579 should be sent to 1 North LaSalle Street, Chicago 2, Illinois.

In This Issue . . .

The Defense Production Administration has been authorized by Congress to make direct loans to business firms desiring to build new war-production plants. The loan application must fulfill certain conditions, however, before DPA can grant it from a \$2 billion-plus appropriation for such loans. Mitchell Gordon explains the operation of Washington's "baby RFC" (p. 15) and tells how a company may apply for a defense-plant loan.

Hardly a week goes by without some newsworthy feat being performed by the nimblest of aircraft, the helicopter. The "flying egg-beaters" are making so many headlines in Korea that the military has commandeered virtually all production for the time being. But the copters are performing no less astonishing peacetime jobs for industry and agriculture. Charles Furcolow reports that, as a result, industry is itching to get its hands on more helicopters just as soon as military demands are satisfied.

For four lush and lively post-war years, America's colleges and universities never had it better. Government-financed veterans swelled enrollments and university income to record levels. But the golden era has ended abruptly and today many private schools are in serious financial trouble. Daniel F. Nicholson reports (p. 13) that enrollments are off and operating costs are soaring. One bright note, however, is the increasing aid that many schools are receiving from industry.

Jack Robins reports (p. 23) from Washington on the little-publicized creation of a global bureaucracy that will henceforth allocate the free world's supply of many basic commodities. Management Engineer John A. Patton discusses (p. 21) the common denominators of good management. Benjamin Melnitsky reports on the tremendous increase in the use of plastic packaging, noting that there are many different kinds, each with a specific purpose.



the **PULSE** of Every College is the Ability of Its Faculty

Regardless of the beauty of its campus, the stateliness of its buildings, or the caliber of its students, a college is only as good as its faculty. An able, qualified faculty is the life blood of any school.

When Roosevelt College opened its doors in 1945 it had few of the enticements so many other colleges have to attract a worthy, distinguished faculty. It had no campus, no outstanding buildings, no residences, and only a limited budget. Yet Roosevelt, from its beginning, has been noted for its teachers.

Among the colleges in the North Central Association, the Roosevelt College faculty of 225 ranks in the top third in Doctor's Degrees, the top 15 per cent in graduate training, the top half in publication of books, and the top tenth in publication of scholarly articles. Numbered among Roosevelt's faculty are busi-

nessmen and scientists from some of Chicago's largest industries.

Because ability alone is the principal criterion for the appointment of faculty members, Roosevelt College has attracted many outstanding scholars who prefer the democratic atmosphere and academic freedom of Roosevelt.

**Day and Evening Classes Start Sept. 17 —
Schedules available upon request.**

ROOSEVELT COLLEGE

430 S. Michigan Ave.

WAbash 2-3580

Chicago 5

The Editor's Page

■ Teapot Tempest

VER since the start of the Cold War there has been a great deal of loose talk about plant dispersal. The less the individuals talking knew about the economics of plant location the more they were or putting new industry in far off mountain caves or distant forests. Unfortunately, some of this conversation stemmed from high government quarters and was accompanied by inferences that only new plants so located would get defense orders and accelerated depreciation.

Finally, the President himself had to scotch the war of words by declaring that the dispersal program, "merely encourages the spacing of new defense and defense-supporting industries a few miles apart." It is not intended to move "industry and labor from one part of the country to another." In other words, all that is expected is a continuation of the long established trend of locating most new plants on the periphery of existing great industrial centers.

Now that this tempest in a teapot has been squelched, management can and should concern itself with the very practical problems of plant security, both protective and corrective should there ever be bomb damage to their installations.

■ Confusion Compounded!

THE average business man struggling with the developing maze of government controls already is being left far behind in the obstacle race of regulations, supplementary regulations, general over-riding regulations, appendices to orders, and interpretations thereof. Only the largest firms, able to hire specialists to devote themselves exclusively to the unfolding tangle of controls, can have any confidence whatever that they are in full compliance at any given moment.

Reasons for the progressive state of confusion are not hard to find. Two examples will suffice: Ceiling Price Regulation 22, the all embracive coverage of which is indicated by its title, "Manufacturers' General Price Regulation," and the Controlled Materials Plan, which covers every manufacturer using copper, steel or aluminum.

The price regulation became effective on April 25, 1951, only four months ago. From that date to this writing there have been in addition to the original regulation, 15 supplementary regulations, more than a dozen amendments, five appendices, 33 interpretations, and at least two general over-riding regulations which affected a very substantial number of the companies covered by CPR 22. Each document consists of several pages of fine print generously cross referenced to a variety of the others. CMP, which became the law of the land only two months ago, is rapidly catching up with CPR in a Gordian Knot of

complexity. Since July 1 there have been seven additional regulations, six directions, many amendments and more than a dozen cross references to the 81 M orders NPA has issued. The foregoing counts do not include appeal procedures nor the delegations of authority to regional offices of NPA and OPS.

To rant about such a situation is unnecessary. It is obviously ridiculous on its face. Experts who specialized in government regulation in World War II say there was nothing even approaching the complexity of present controls at that time, when the nation was fighting total, global war.

The solution they propose is direct, although it may not be easy even for the regulators who have poured forth the whole mess of regulations, orders, directions, interpretations, etc., and therefore should understand them. Simplify the whole structure of each control, preferably by combining in one order everything that has gone before. Then try to leave the whole thing alone long enough for business men to determine the state of their compliance. The alternative is a continuance of the present state of confusion in which the average business man hasn't enough time—even if he works around the clock—to run his business and keep up with regulations.

■ Sweet Talk

EVERY once in a while the Russian propaganda hits a new high—even for Communist double talk. One of these classics, too good not to pass along, appeared as part of the advance publicity for the Communist Festival For Youth held in East Berlin in August.

Said the lengthy manifesto in part: "We hold the cultural intercourse between countries, the right of youth and peoples to communicate across borders and learning to understand each other's views as important contributions to the defense of peace. Therefore we greet with enthusiasm, together with the youth of all the world, the Third World Festival of Youth and Students for Peace, to be held in Berlin this summer. Neither race, political views nor religious creed will prevent any youth from participating in this Festival"

This should indeed be good news to our diplomats in Moscow who are not permitted even to drive an automobile let alone travel about the country. It should be equally inspiring to churchmen and to partisans of non-communist political persuasions who until now have found life in all countries behind the Iron Curtain precarious to say the least. With such a new and forthright policy of free intercourse between nations even our state department will find its global burdens lighter. For, of course, there will be no more jamming of Voice of America broadcasts to the 175,000,000 free and happy citizens who comprise the proletarian masses of Mother Russia.

Ah! "Good old Joe."

Alan Sturdy



One La Salle Street

Here, at the center of Chicago's financial, life insurance, legal, and commercial activities, skill and expert scientific planning have created a modern business setting of outstanding distinction. The many prominent tenants of this great building appreciate not only this factor of central location, but also the high standards of service maintained for their comfort and convenience, making One La Salle Street an address of prestige. For all who seek downtown office space, the special advantages afforded at One La Salle Street are worthy of first consideration.

L. J. Sheridan & Co.
Management Agent

One La Salle St., Chicago - ANDover 3-7457

HERE-THERE and EVERYWHERE

- **Feed Thy Neighbor** — Each of the nation's 10 million farm workers raises enough food to feed 14 other Americans, according to a survey just completed by The Northwestern National Life Insurance Company. The wonders of science—improved seed, fertilizer, cultivation methods plus mechanization—make this production miracle possible. At the same time, however, the horse and mule population on U. S. farms has, significantly, dwindled to 7,500,000 in 1950 from 24,000,000 in 1910.

- **Old Story** — There's nothing new under the sun! Records have been unearthed showing that workmen exercised the right to strike some 3,100 years ago. A University of Chicago professor of Egyptology reports that workmen building the tomb of Egyptian pharaoh, Ramses III, went on strike regularly because of inadequate food rations.

- **Timely Milestone** — Completion of its 50 millionth watch will be celebrated this month by the Elgin National Watch Company. Trade officials from all parts of the U. S. will be on hand to help the company and the city of Elgin observe the event. It is 87 years since the first watch factory west of the Alleghany Mountains was established in Elgin. Elgin National's production is now regarded as the world's biggest.

- **Cleanliness Pays** — Britain is reclaiming a thousand tons of steel a week by a secret process which removes rust from scrap steel, restoring it almost to new. Ten strategically located "laundries" process the rust-covered metal through a solution of electrolytic alkali. Engineers say that not a fraction of good metal is lost, although the bath removes grease and rust, and also polishes the metal. No item takes longer than

two hours to put through the "laundry." The bath formula owned by De-rustit Ltd. of London, which has licensed plants in five other countries, although not so far in the United States.

- **Up and Up and Up** — State sales tax collections have reached an astronomical new high of \$1,500,000,000. Commerce Clearing House report. Thirty-three states now levy sales and use taxes with rates ranging from 0.1 per cent in Delaware to 3.25 per cent in Washington. CCD attributes record collections to the higher prices of goods purchased by consumers. Illinois is one of 20 states that has a 2 per cent sales tax.

- **Safe Keeping** — The first safe deposit vault to be installed in Chicago's Loop section in 20 years is going into the Home Federal Savings and Loan Association's new quarters at State and Adams Streets. The association will move into the new offices next year. The \$150,000 vault was built by the Mosler Safe Company.

- **Flood Damage** — Special repair service on appliances damaged in the recent floods around Kansas City, Topeka, and St. Louis has been offered by Hotpoint, Inc., in cooperation with dealers and local distributors. Factory-trainee service teams and special shipment of parts were rushed to the disaster area to speed repair work. Hotpoint is also giving special trade-in allowances on flood damaged kitchen and laundry equipment.

- **Hard Sponge** — A new sponge rubber compound is being used to fill airplane propellers manufactured by Hamilton Standard Division of United Aircraft Corporation. Feather-light and bone-hard

(Continued on page 33)

WE'VE GOT ALL 3

COAL—OIL—GAS

Automatic Firing



THE IRON FIREMAN

TRADE MARK
REG. U. S. PAT. OFF.

Respected by Millions

Iron Fireman Mfg. Co.

1101 W. Adams St.

Chicago, Illinois

MON. 6-8000

For further information and full line catalog send
in this coupon

Send Coupon Today

Name _____

Address _____

Firm _____

City _____

Phone No. _____

ADVER-TIES

(Trade Mark)

THE "TIES" THAT FOCUS PRODUCT ATTENTION



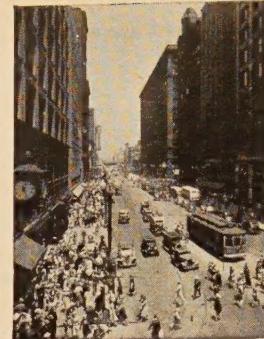
MADE SPECIAL TO ORDER

"ADVER-TIES" are not stock ties, but made to individual requirements, specially designed with illustration of product, trade mark or slogan. "ADVER-TIES" are produced under exclusive patent, of high quality material and hand-tailored by "tie experts" of better than 31 years experience.

QUANTITY LOTS SUPPLIED at a nominal cost. State needs and details and prices will be cheerfully furnished.

ALSO — REGULAR GIFT TIES, special design or fancy pattern. Individual package. — Write for complete facts and "photos of ties".

American Neckwear Mfg. Co.
320 S. FRANKLIN WE 9-7592
CHICAGO 6, ILL.



Trends in FINANCE and BUSINESS

Company Sales **Rising Faster Than Boss' Income**

Big bosses come relatively cheaper these days than they did a decade ago. So reports the National Industrial Conference Board following a study of executive compensation as compared with company sales. Between 1940 and 1949, the board found, the compensation of the three highest-paid executives in 567 selected companies increased 75 per cent. But, the average sales of these companies increased 179 per cent during the same period. "Consequently," says the board, "the actual cost of management declined in terms of the sales dollar."

Lesser humans who are wondering whether the big boss is as pinched as they are these days have their answer in the conference board survey. Actually, most top executives are worse off today than 10 years ago. Although their compensation has increased 75 per cent, the board points out that the dollar has shrunk to 60 cents and income taxes have sailed off skyward.

The study notes that the boss making \$10,000 in 1940 would have had to make \$19,000 in 1949 to live as well. The man earning \$25,000 in 1940 would have had to make \$51,000, and the man making \$100,000 in 1940 would have required \$225,000 or 125 per cent more to be as well off in 1949! A few industries did manage to keep their executives abreast of higher living costs. Six radio and TV set manufacturers, surveyed by the board, increased executive compensation a handsome 276 per cent over the nine year period (against a comparable sales increase of 416 per cent), while eight manufacturers of textile fabrics hiked top-level salaries by 201 per cent.

In the 45 industries surveyed,

eight paid an average top salary exceeding \$100,000 in 1949, twice the number of industries paying six-figure average top salaries in '40.

» » »

Taxes, High Costs Reduce Earnings

Record-high business earnings during the first six months of 1951 have been chopped down sharply by high taxes and rising costs. A New York Stock Exchange analysis of 460 corporations shows that a first quarter earnings increase of 29.3 per cent over 1950 was cut down to 4.2 per cent as of the end of the first half.

Commenting on the downward profit trend, the exchange attributes the decline not only to taxes and high costs, but also to sales slumps in some industries and widespread difficulties in obtaining necessary supplies for peacetime production. The first half profit picture was erratic, however, with some industries departing sharply from the depressed pattern.

Aircraft concerns showed a six-month net income gain of 57.4 per cent over 1950; paper manufacturing company profits rose 46.8 per cent; machinery and metals companies were up 34.7 per cent; mining, 26.2 per cent; petroleum and natural gas 41.7 per cent; and railroad equipment, 20.2 per cent. The steepest decline was in the automotive group, down 37.5 per cent.

» » »

What do you want to do when you retire—relax completely and just loaf, or work on a restricted schedule? The Northwestern National Life Insurance posed this question to about 3,000 men of various ages, (Continued on page 50)

Walk From Work to College



Invest Your Evenings in Advancement

The downtown Colleges of DePaul University offer a broad range of late afternoon, evening, and Saturday courses on the undergraduate and graduate levels to help you prepare for a more successful future in your chosen field. Conveniently located in the downtown DePaul Building between Wabash and Michigan Avenues at 64 East Lake Street, the downtown Colleges have attracted thousands of men and women eager to prepare themselves for advancement.

COLLEGE OF COMMERCE

Unlimited opportunities in the business fields. Evening courses on the undergraduate and graduate levels will be offered in the following general areas: Accounting, Business Law, Business Mathematics, Business Statistics, Economics, English, Finance, Management, Marketing, Political Science, Psychology, Religion, and Secretarial Science. Registration Sept. 17-22. Classes begin Sept. 24.

UNIVERSITY COLLEGE

Undergraduate and graduate evening courses in the following fields: Biology, Botany, Chemistry, Education, English, Fine Arts, French, Geography, German, History, Latin, Mathematics, Nursing Education, Philosophy, Physics, Polish, Political Science, Psychology, Sociology, Soviet Studies, Spanish, Speech, Theology, and Zoology. Registration Sept. 10-14. Classes begin Sept. 17.

For additional information, call DePaul Downtown (FInancial 6-4000) and ask for the College in which you are interested.

GRADUATE SCHOOL

Programs leading to the master of arts, master of science, master of education, master of business administration, master of music, and master of music education degrees. For complete information, write directly to the Dean of the Graduate School.

COLLEGE OF LAW

A professional four-year evening program leading to the bachelor of laws and juris doctor degrees and designed to prepare for admission to the Bar. Registration Aug. 27 - Sept. 4. Classes begin Sept. 4.

DEPARTMENT OF DRAMA

Training for stage, radio, television, motion picture, and educational theatre work. Registration Sept. 10, 11, 13, and 14. Classes begin Sept. 17.



DE PAUL UNIVERSITY

Ideally Located in Downtown Chicago

64 E. LAKE ST., CHICAGO, ILL.

Telephone FInancial 6-4000



Colleges Face Famine Midst Plenty

By DANIEL F. NICHOLSON

Shrinking Enrollments Plus Inflation-Swollen Costs

Are Harassing Private Colleges Across The Nation

AMERICA'S colleges and universities are ploughing the high seas of a financial tempest these days. Even the stoutest institutions have been forced to trim expenses severely. These will doubtless ride out the storm, but there is real danger that some of the less affluent private schools may not.

At richly-endowed Yale University this year, undergraduates will sweep and dust their own rooms, make their own beds and otherwise pinch-hit for an army of maids and housekeepers who have long served the venerable school. With students handling these chores, Yale hopes to ease its hard-pressed budget by about \$160,000 a year.

But most of the nation's private universities and colleges are less fortunate than wealthy Yale. All of these 900-odd schools face the same two-fold problem: a shrinking enrollment that has greatly depressed income, and steadily rising costs. Worst of all, there is little hope that higher education's financial condition will improve for some years to come.

The great depression is taking one last whack at our colleges.

 The golden era of the government-financed G. I. veteran is over, and private schools miss him badly.
Ewing Galloway

During the dark years of the early 'thirties, both the marriage and the birth rate dropped sharply. Thus the youngsters who should be going to college today just weren't born. Enrollments are skidding and tuition income is falling almost as rapidly. Meanwhile, of course, inflation is horsewhipping the colleges in its own merciless fashion.

There is further aggravation in the fact that G. I. Bill, which saved more than one shaky college, has about run out. The draft is also robbing the schools of hundreds of thousands of young men who are just reaching college age or have finished one or two years of college work.

Boom To Near-Bust

Since the war, education's finances have gone from boom to near-bust. The G. I. Bill swelled enrollments to record levels. In seven years, more than 8,000,000 veterans poured about four billion dollars of government money into thousands of schools of all kinds. But the golden era has abruptly ended! Only a handful of government-subsidized G. I.'s still linger on college campuses. The Korean war will probably result in a new G. I. bill, but that—to the colleges—is no more than a thin line of sunlight on the

far horizon. Meanwhile, the armed forces will continue to take away far more students than they will give to the schools, certainly for the next few years.

An enrollment drop this fall is certain; how great it will be depends upon the forecaster. Early estimates placed the decline at 15 to 20 per cent, compared with last fall. Ernest C. Miller, registrar at the University of Chicago, places the "possible" nationwide drop at less than 17 per cent. However, last July, Rall I. Grigsby, Deputy United States Commissioner of Education, told the National Education Association in convention at San Francisco that, on the basis of revised draft demands, the decline would probably be held to eight per cent.

This comforting forecast was accompanied, however, with the prediction that approximately 20,000 college teachers will be dismissed or furloughed this year. This would mean losing about 15 per cent of the nation's professorial corps. Presumably the sharp curtailment is based on estimates of a 15 to 20 per cent cut in enrollment, as well as the loss of some teachers to better paying jobs in industry.

Dean of Students Robert M. Strozier of the University of Chi-

cago says some schools "panicked" last January, but adds that since the adoption of draft examinations, the colleges are not anticipating the steep declines predicted in January.

Nevertheless, firing even relatively few faculty members and barring employment to promising young instructors is highly distasteful to school administrators. About 1960, college enrollments will begin to rise again with the influx of youngsters who made up the bumper baby crops of the war years. Teachers will then be needed as never before, and they cannot be created overnight.

Tuition Rates Up

Tuition rates are rising, despite the reluctance of educators who are trying to make higher education available to all worthy students. The schools are seeking increased endowments and gifts, and also are tapping other sources of revenue wherever possible. Small, but enterprising, Wittenberg College, for example, has set up a cooperative program with Springfield, O., industry, whereby it will train foremen and other supervisors in human relations, personal development, and economics. Wittenberg will pick up an extra \$25,000 a year for the work, perhaps enough to save it from running in the red next year.

Educators are also plugging for more scholarships, especially those that help pay living expenses as well as tuition.

Ford Motor Company last spring announced a scholarship program that recognizes not only the students' financial problems but the troubles of private schools as well. The company will pay tuition and up to four-fifths of living costs for about 70 students a year selected from Ford employee families. Ford will also present a \$500 gift to each private institution that one of its sponsored students attends.

Chicago's educa-

"We have fine state universities throughout the country. But do you want every university to be state-controlled and state financed? Isn't there a grave danger that eventually government will direct the policy of teaching if every institution becomes publicly-owned and publicly-operated?"

"The state institutions are kept on the beam by the standards set by the privately-endowed institutions; and those institutions cannot survive and maintain those high standards of free inquiry without help from American business."

Clarence B. Randall, president, Inland Steel Company, Chicago.

tional institutions are confronting the same kind of difficulties as other private schools, and they are trimming their sails accordingly. They are, however, holding faculty dismissals to a minimum, and some are issuing no dismissals.

DePaul University, with no endowment, anticipates a 15 per cent drop in enrollment this fall, though summer school attendance this year kept pace with 1950. Faculty members who have resigned or are pursuing research studies on a full-time basis are not being replaced, but otherwise there will be no reduction in the teaching staff. Tuition has been increased about 10 per cent.

Northwestern University is fol-

lowing a similar plan with respect to instructors. Those who have left may not be replaced, but none are being dropped by the university. Tuition at Northwestern jumps 10 per cent this fall, to bring in an estimated \$300,000 in additional revenue, and various departmental economies are counted on to cut operating expenses by as much as a half million dollars.

Loyola University had 7,382 students last year, a drop of four per cent from the preceding year. Loyola's president, the Very Reverend James T. Hussey, expects a further drop of five to 15 per cent during the fall semester, but the school has nevertheless renewed all but a few of the faculty contracts for the coming year. Loyola has managed to hold its deficit to a very low level, thanks partly to the help of two Chicago businessmen who pitched in and raised \$75,000 for the school during a brief campaign last year.

Enrollments Off

Roosevelt College looks for an enrollment of about 4,000 students this fall, compared with 4,856 a year ago and a peak of 5,950 in 1949. Roosevelt, however, will limit teaching staff curtailments chiefly to the dropping of part-time teachers. Tuition at Roosevelt is being increased \$1 per semester hour. The fact that Roosevelt College draws most of its students from the Chicago area works in the school's favor, because students can live at home more economically. An offsetting factor is the attraction of current high wages and salaries that lure prospective students.

The University of Chicago is probably in the best position of all Chicago schools. Its students did particularly well in the draft examinations, endowment income has been rising (last year it was a handsome 6.1 per cent on book value), business has been (Continued on page 50)



University of Illinois

A "Baby RFC" For Plant Builders

Here's how you get a loan under a new

\$4 billion program to help businessmen construct needed defense plants

NOT so long ago a small Los Angeles manufacturer found himself hankering for a factory of his own. His operations were spread over three separate building spaces which he leased. In one was his office, and in another, his research lab. The third he used for manufacturing.

The trouble was that he would have to borrow about \$110,000 to get his own factory. Local banks wouldn't lend him the money, nor would the Reconstruction Finance Corporation when he approached the big government lending agency.

Like many another firm, however, the Los Angeles company had an important "relative." Not a blood relation. But a "relative," nonetheless, in the eyes of the nation's top mobilization agency, the Defense Production Administration.

That relative was "defense." The firm made a plastic filler which, when mixed with other plastics, hardened and toughened them. Especially useful for aircraft parts the company contended, and DPA agreed.

As a result, the manufacturer is now building his plant. He didn't get the \$110,000 he had been seeking, but he did get \$95,000 from DPA and until March 1, 1958 to return it.

DPA Grants Loans

DPA received permission from Congress last fall to make such loans. It was one of the major devices—along with the authority to grant tax benefits on certain new facilities and to enter into purchase contracts—that Congress gave defense production planners last September to get the country's industry mobilized.

To permit the mobilizers to carry out these and other defense powers in the ensuing 10 months—to the fiscal year ended June 30, 1951—the lawmakers gave the Budget Bureau three separate appropri-

ations totaling \$2 billion. Almost all that money was committed by June 30, mainly for purchase contracts for such things as machine tools, scarce minerals and other materials. Congress has already provided another \$2 billion to carry the mobilization activities through the current fiscal year, which ends June 30, 1952.

\$57 Million Approved

The loan program got a relatively small share of the first \$2 billion, mostly because it took so long to get started. Experienced personnel had to be hired in various government agencies having a hand in the loans. Procedures had to be set up. Then they had to be made clear to businessmen—a process still going on. That, however, just got the loan application to the federal doorstep. The real work, studying claims and qualifications, had only to begin.

Only now do defense lenders feel they've got the pipeline full enough with applications to begin pouring out the money, and the rejections.

In the seven months following the authorization of its first defense loan last December the agency had approved but \$57,767,882 worth of loans. That was hardly over \$8 million worth of loans a month. Top DPA defense lenders expect that rate to rise rapidly—perhaps tenfold—long before the end of Fall.

"We're now ready," says one top official, "to act on loan applications about as fast as they're passed up to us. We've just begun to get the loan program rolling. We may be pushing them out of here at the rate of \$50 million to \$100 million a month if we get that volume of worthy applicants," he declares.

He's confident the Budget Bureau will extend the necessary money, as they have so far. Budget Bureau officials also expect the loan program to begin taking a larger portion of their Defense Production Act funds.

How does a businessman who needs money to buy or build something "related to defense" go about getting one of DPA's loans?

There's no special application form to fill out. But the businessman will still have plenty of writing to do. In a detailed letter he'll have to set forth facts backing up these important DPA qualifications:

That the loan is not available from private sources on "reasonable" terms.

That it is not available from the R.F.C. as a "peacetime-type" loan.

That the money isn't available through any other means such as partial payments from the Defense Department for military contracts in process but not yet completed.

Finally, that the loan will "expedite production and deliveries or services to aid in carrying out government contracts for the procurement of materials or the performance of services for the national defense."

Letters setting forth this information do not, however, go directly to DPA. Instead, they've been going to lower "recommending" agencies having day-to-day experience in the particular commodity, product or service involved.

For example, loan applications involving new projects for boosting production of foods or fibers have been going to the Agriculture Department. The Interstate Commerce Commission has been handling highway, rail and inland water transportation equipment and facilities. The ICC itself has

(Continued on page 26)



Helicopters flew 280,430 miles, doubled airmail volume during first year serving Chicago and suburbs.



ABOVE: New York City's fleet of three Bell helicopters patrol traffic, harbor vessels; recently rescued injured steeplejack atop Cathedral of St. John the Divine. TOP LEFT: The Navy's newest all-purpose fleet copter, the Piasecki HUP-1. BOTTOM LEFT: Piasecki's curious-looking HRP-2 carries 12 litter patients, can also transport assault troops for the Army and Marine Corps.



Sikorsky H-19 copter comes in both land and amphibious models, carries eight litter cases in addition to pilot and medical attendant.

IF THE Korean War has proved nothing else, it has convinced a good many Doubting Thomases that the helicopter is here to stay. Call it by any of its irreverent nicknames — flying eggbeater, airborne windmill, topsy turvy whirligig — the copter has performed hitherto impossible feats in the rugged Korean terrain. Helicopters have snatched grounded rigid-wing pilots from certain capture, evacuated the wounded to base hospitals in record time, hastily reinforced beleaguered troops, and — in one of their best publicised operations — carried U. S. negotiators to the many cease-fire parleys. Their exploits have so captivated the military that, for the time being, all production is channeled to the services, despite a corresponding boom in the demand for "peacetime" helicopters.

The copter industry, which is so liberally sprinkled with wet-behind-the-ears executives that a trade powwow would look only slightly more mature than a fraternity open house*, is months behind demand. This is in spite of an enormous postwar expansion of plant and

*Among the industry's bright young men: President Stanley Hiller Jr. of Hiller Helicopters, age 26; Board Chairman Frank Piasecki of Piasecki Helicopter Corp., age 31; President Frank Kaman of Kaman Aircraft Corp., age 32. Bright Young Man Piasecki is also president of the American Helicopter Society.

UP WITH THE HELICOPTER



Kaman Aircraft's HTK-1 is a 3-place trainer that converts to carry a litter case and walking casualty.

The "flying eggbeater" business is rising vertically—just like its product!

manufacturing personnel. Estimates are that the copter makers already hold over \$300,000,000 in military orders, which may be nothing more than an indication of much bigger government business to come.

Furthermore, there is every indication that business will begin snapping up helicopters the moment the military relaxes its grip on current production. Already the mechanical hummingbirds have performed a host of peacetime exploits that have been less publicized, but no less striking than their military accomplishments.

"Household Copter!"

The day is not just around the corner when the copter will be useful for "everything from mowing the lawn to painting the house." Nevertheless the American Helicopter Company has turned up with a 200-pound, one-passenger model—dubbed the "copter-cycle" — which could conceivably be used for precisely such household jobs!

Filene's department store in Boston launched what was probably the first commercial use of helicopters in 1945, when it began delivering merchandise by copter to surrounding Massachusetts towns. Since then many another department store has picked up the idea.

United-Rexall soon followed Filene's lead with another business innovation. It bought a Bell heli-

By CHARLES FURCOLOWE

copter, christened it the "Rexall Mercy Ship," and held it ready for emergency medical service. The idea, proving a public relations and public service "natural," brought United-Rexall nation-wide publicity. In 1949, United Helicopters, Inc., introduced the first commercial helicopter "ambulance of the air," specifically designed for emergency rescue and pick-up work.

In 1946 a Canadian geophysicist, using delicate electro-magnetic instruments, used a helicopter to locate and chart underground ore veins. The copter's ability to hover at a standstill in mid-air made it possible to record, not only the existence of ore veins, but their size, shape, and depth as well. By helicopter, the survey was completed in a matter of hours. An earlier charting, which used conventional ground methods, required several months.

Cut Mapping Costs

Two years later a helicopter was used in a large-scale mapping operation near Pelican, Alaska. A 1000-mile area was covered in less than 12 weeks, at a cost of only \$30 a mile. During the same year, a helicopter demonstrated its value in oil exploration. The Standard Oil Company of Ohio had em-

ployed a prominent exploration firm to probe a particularly marshy section in Terrebonne Parish, Louisiana. Since there was a time element involved in the job, the usual means of locomotion — a "marsh buggy" — was not feasible. The company thus decided to transport its exploration crew by helicopter, and the job was performed in jig time — at a cost of \$75 per flying hour.

Boon To Farmers

Since then, helicopters have been widely used in oil exploration in this type of terrain, and have proved much more satisfactory than marsh buggies. Seismograph crews which use the buggies waste a great deal of time traveling back and forth between the buggies and the quarter boats which are based at various spots in the waterways.

Copters have also been a huge time- and money-saver to agriculture. Four years ago in the Yakima Valley in Washington, the helicopter demonstrated its superiority over rigid-wing planes for crop-dusting. Because they can stand still in the air, as well as fly straight up and down, sideways, or backwards, helicopters are able to give what amounts to individual attention to every row of crops. Furthermore, the powerful down-draft resulting from the craft's spinning pro-

(Continued on page 39)



Dr. Hale Charch re-enacts the 1927 discovery of moisture-proof cellophane at the Du Pont research laboratory. Since then, cellophane has created 5000 new jobs at Du Pont, made work for 300 companies which convert it into a galaxy of products.

Behold The Plastic Films!

TODAY THEY ADORN EVERYTHING FROM TOMATOES TO THE FAMILY CAT

FOR 2,000 years mankind has benefited from the transparency of glass. For a shorter period — though measured in centuries — mankind has enjoyed the flexibility of fabrics and rubber. It has only been in the last decade or so, that science has magically combined these two great properties in a galaxy of transparent, flexible substances that are grouped broadly under the generic name, plastic film. There is hardly another scientific accomplishment that has changed the appearance of so many consumer goods so astonishingly in so brief a period of time.

Transparent vinyl films made their untimely debut in 1940, and promptly went into seclusion until the end of the war. Since 1945, production has skyrocketed to well

over 125,000,000 pounds annually. It is no exaggeration to say that plastic films are just about everywhere. A rainy day brings into appearance millions of pounds of vinyl in the form of raincoats, hat and shoe protectors, umbrellas, and even tidy covers for cats and dogs. The supermarket is a dazzling showcase for plastic films that encase tempting displays of almost every fresh fruit and vegetable grown. You can buy rivets neatly wrapped in plastic, and even a new house has been delivered to its purchaser chastely swathed in cellophane by a publicity-minded realtor.

Until a decade ago cellophane was the only important type of flexible film available. Today, we are told, practically all common plastics are being, or soon will be

By BENJAMIN MELNITSKY

produced in film form. They include nylon from which a dazzling array of fabrics are loomed; cellulose acetate, mainstay of the plastics molding industry; polyethylene of squeeze-bottle fame; and the saran fibers that have starred in upholstery and auto seat covers.

Although one-third of all polyethylene output is now being converted into films, producers of this lightest of all plastics are at a funeral, the ball game or otherwise unavailable when a new customer turns up at the door. Supply and demand are simply not on speaking terms. The same can be said of nylon. It is now as scarce as nylon stockings during the days

when hosiery stores stationed burly policemen at the front door. Du Pont's 100,000,000 pound per year output plus 50,000,000 more pounds from the soon-to-be-completed Chemstrand Corporation plant will be hard pressed to meet the onrushing demand for the amazing substance that seems to turn up in half a dozen new forms every week.

"Storybook" Conception

Plastic films were conceived, in storybook fashion, in a Paris sidewalk cafe. Like many of his countrymen, Frenchman Jacques Brandenberger was in the habit of passing the time in such a pleasant environment. One day many years ago a waiter spilled his wine on the tablecloth. This set Brandenberger to cogitating on the value of a transparent cover that could be wiped clean with a damp rag. For seven years he worked at the idea, never quite succeeding. In 1912, however, he managed to produce regenerated cellulose — a product that was attractive, flexible, and clear as glass. Its big disadvantage was its sponge-like thirst for all liquids. When Du Pont bought up American rights to Brandenberger's creation in 1924, many felt that the concern was indeed buying a pig in the poke.

The DuPont research lab went into action. Three years later Du Pont came up with an ingenious method for waterproofing the material with a nitrocellulose coating. This was in 1927, and DuPont

now had cellophane. Since then, cellophane has created 5,000 new jobs at Du Pont. It has also become the life blood of some 300 companies which convert cellophane into transparent tape, party hats, Christmas tree ornaments, soda straws, wrappings for penicillin, nylon hose, and bread—to mention but a tiny fraction of subsequent end products.

Cellophane is largely responsible for the fact that 60 per cent of all food products are now sold on a serve-yourself basis, for it has made possible unit packaging while still protecting edibles from damage and contamination from the fingers of shoppers. Unquestionably, part of the vast increase in cigarette consumption can be attributed to the added sales appeal and increased freshness resulting from cellophane wrappers.

Flexible Coatings

Subsequent research has developed a wide range of flexible coatings which have gilded regenerated cellulose with such additional attributes as fire-proofness, extra strength, water vapor and gas impermeability, and heat-sealing characteristics. Today, about 50 varieties are marketed by American Viscose, DuPont, and a newcomer to the business, Olin Industries. Production in 1924 was 500,000

pounds; now it is 500 times greater.

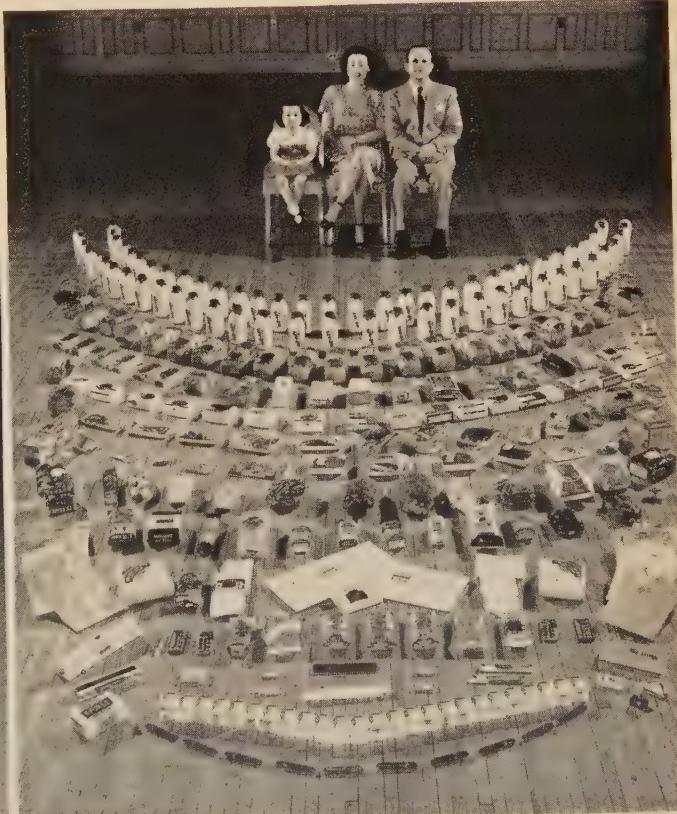
Cellophane and similar films are "unsupported"; in other words, they are not sprayed or painted on. (The "dope" that boys once used to stretch model airplane bodies, as well as coatings used to "mothball" naval vessels are "supported" films.) Oldest of the nonsupported films are the cellulosics. They are distantly related to cellophane because they have the same basic raw material—natural cellulose. Included in this family are cellulose acetate, cellulose acetate butyrate, and ethyl cellulose. The clear window in a box of frozen lima beans looks no different than the cellophane wrapper, but the window is a cellulose acetate film. The costlier material is used because of its greater dimensional stability. It does not shrink enough to pucker the package or expand sufficiently to mar its sleek appearance.

Attractiveness is not the only reason why fresh tomatoes are pre-packaged in plastics. Unless tomatoes can inhale oxygen and exhale harmful carbon dioxide, they wind up prematurely in the grocer's garbage can. Cellulose acetate has the remarkable ability



Eastman Kodak Co.

One plastic film, tradenamed Kodapak, has proved highly successful as an insulation material for electric wire.



This colorful array of cellophane-wrapped goods is what Du Pont figures the average U. S. family uses in one month.

to allow such a two-way-breathing process to take place—despite the absence of perforations of any kind!

"They don't buy what they don't see," goes the old retailing maxim, and it applies to foods displayed in refrigerated cabinets. Film which does not allow for free passage of moisture vapor quickly fogs. But the cellulose variety allows moisture to escape—one more of its unique properties.

If you add butyric acid and butyric anhydride to the ingredients of cellulose acetate, you get cellulose acetate butyrate which offers improved moisture resistance, greater stability under temperature and humidity variations, and greater luster. It also costs more. Since cellulose acetate butyrate stubbornly resists the passage of electric current, it is also used as a dielectric in cable wrappings and interleaves for coils.

Ethyl Cellulose

One of the first uses for ethyl cellulose was as a binder for tobacco at the end of cigarettes. Later, it was in proximity fuses. In the film form, its excellent dielectric properties and high resistance to alkalies, weak acids, and moisture are utilized in electrical and electronic fields.

Brandenberger's tablecloth dream was finally realized in 1949, when 30,000,000 such covers were produced from vinyl film. But, that's only a microscopic part of the vinyl story. A department store

could be stocked from basement on up with products made from, wrapped in, or combined with vinyl film. Consider the case of plastic window drapes. In 1947 about 175,000 pounds of vinyl went into their manufacture. The next year the figure leaped to 5,000,000 pounds and in 1949 to 15,000,000. In the process, the fate of paper drapes has indeed been melancholy, although no more so than that of cotton shower curtains, oil cloth tablecovers, rubber baby pants and rayon garment bags. In every case, vinyl has butchered all competitors.

Medical Application

Surgeons at the Euclid Clinic in Cleveland were interested in a different kind of drape—those used in operating rooms as a precaution against infection. Those made of toweling often slip out of place, or become soaked with a patient's perspiration. Vinyl surgical drapes now on the market are undercoated with an adhesive to conform to irregular body areas. They are unaffected by surgical solvents and detergents, absorb no perspiration, and, being nontoxic, can even be tucked into an open incision with complete safety.

Another variety of new products capitalizes on a unique vinyl property. When two layers of film are squeezed together under heat and high pressure they unite to form a single homogeneous film. Printed material, decalcomanias, business cards, and letterheads can

thus be laminated within protective vinyl. Advertising displays that quickly seal to store windows use the same idea. The sign stays put indefinitely; though it can be removed by simply peeling it off. Spectacle cases, tobacco pouches, and a host of other items are currently being manufactured from laminated vinyl film.

Although not as elastic as rubber, vinyl offers greater resistance to oils, acids, and alcohol. It costs less, lasts longer, and—of special significance these days—is more easily available. The invasion of the American home by inflated dragons, odd-shaped balloons, and air-filled dolls is evidence of the impact of the odorless, tasteless and non-toxic vinyls. In 1949, about 3,500,000 pounds were converted into inflatable toys.

Vinyl is a catch-all term for an army of materials sharing acetylene and acetic acid or hydrogen chloride as raw materials. Otherwise, they are dissimilar. Transparent bags with olives floating in liquid, fresh shucked oysters packed in sea water, or ready-to-serve chocolate syrup are made from vinylidene chloride, known also as saran. Liver sausage, garlic cheese spread, limburger, and other odoriferous foods are packed in saran because of its low rate of gas transmission. Its ability to retain the moisture already in a product and bar outside dampness from entering keeps saran-packed cheeses from molding or drying out.

"Squeeze Bags"

Vinyl-chloride-nitrile is found in squeeze bags for margarine. Vinyl butyrol is the "safety" in safety glass. When set between two panes of glass, the vinyl film prevents shattering under impact. Nor does the material discolor under the sun's rays. Unlike other vinyls, however, it lacks elasticity and assumes a soft drape. It can be textured to resemble silk, moire, or linen. A third vinyl type, vinyl chloride, goes into rainwear, draperies, curtains and thousands of other consumer goods. In all, there are hundreds of vinyl types and grades—some already available as "unsupported" films, others still being developed in pilot plants and research laboratories.

The development in England of

(Continued on page 42)



The key unit in the manufacture of cellophane is this \$500,000 casting machine on which an endless sheet of film is produced and wound on rolls at right. *Du Pont photo*

Key To Good Management

The most important ingredient of successful management is the skillful handling of people as individuals

ONE OF our great misconceptions is the belief that the products of one company compete with the products of another company. The truth is that managements of various companies compete with one another, not their products. It is solely upon its management that the success or failure of any company depends.

Unfortunately, there is no scientific formula for good management. There are, however, certain common denominators of successful management. The most important is the skillful handling of people.

Yet, the attention given to people in many companies is negligible compared to the effort spent on product development, engineering, market research, advertising and sales promotion. Important as they are, proper procedures for producing and marketing products do not, of themselves, make a company successful. The most ingenious production program can fail unless it is infused with a recognition of every employe as an individual.

As George L. Clements, president of Jewel Tea Company, puts it, "A company or corporation has no real substance except that given to it by people. It is only a legal skeleton within which people work and live together in small groups or teams, each dependent on the other."

There is nothing idealistic about human engineering in business. It is more than coincidence that the nation's most profitable companies are, with few exceptions, those with outstanding programs for the selection, development and maximum utilization of their human resources.

Specific personnel management programs differ, of course, but most are built on these cornerstones:

1. Selection and training of

By JOHN A. PATTON

President, John A. Patton Management Engineers, Inc.

workers. Aptitude tests, patterned interviews and physical examinations are used to screen job applicants and place successful ones in jobs for which they are best suited.

Interview Questions

It costs the Bowman Dairy Company \$1,000 to train a milk route salesman. For this reason, Bowman screens and trains route men with extreme care. Questions like "What would you like to be doing 10 years from now?" are asked during four different job interviews given each applicant. Applicants are also given aptitude and physical tests.

To satisfy themselves that the painstaking procedure was worth the effort, Bowman over a six-month period hired men with no other qualification than physical fitness for the job. Job failures jumped sharply, and the company

quickly returned to its testing program.

Once selected, a new route salesman spends four days studying the dairy business from milking to the final delivery of products to customers. They are briefed on company history, products, route books, company rules and sales department procedure. Then, after two days as an assistant route man, a new salesman is on his own. When a man is promoted to route foreman, he is given a refresher course. If later promoted to assistant manager, he receives a six-month executive training course.

Right Man In Right Job

Experience has long shown that proper screening and placement reduces labor turnover and gives a company better workers. In the right jobs, workers perform better, earn more and enjoy their work more. At Soreng Manufacturing Corporation in Schiller Park, Ill., labor turnover dropped from five to 1.3 per cent within five months after aptitude tests were adopted for employe selection and placement.

2. Selection and development of executives. Companies often screen plant workers with great care, but fail to take similar precautions in choosing management personnel. Successful companies like Bowman Dairy, Jewel Tea, and Sears Roebuck have adopted equally effective programs for developing promising young people into executives.

Sears, whose executive ranks exceed 9,000, has a "Reserve Group" of 4,000 managers and a "Senior Reserve Group" of 300 in its executive development program. Administrative talent has been developed through the decentralization of retail and mail-order operations into



John A. Patton



1



2



3



4



5



6

JOB TURNOVER DROPPED 74 PER CENT!

When the Soreng Manufacturing Corporation installed a personnel testing program at its 500-employee Schiller Park, Ill., plant, labor turnover quickly fell 74 per cent! The employee selection program is illustrated above. (1) The plant receptionist passes a likely applicant to the personnel office where she takes a mechanical ability test (2) and is interviewed (3) by the personnel director and later (4) by the foreman. Safely through a physical exam (5), she finally becomes a coil winder (6).

five territories, each with its own management team. Sears has long undertaken to develop executives from its own organization. Today's best example of the success of this policy is President Fowler B. McConnell, who began as a stock clerk in the Chicago mail order department in 1916.

Developing Executives

Oliver Corporation, Chicago, farm and industrial equipment manufacturer, also develops administrators through the decentralization of executive control. Oliver's seven manufacturing plants and 14 distributing offices are automatically operated with a minimum of home-office direction. Board Chairman Alva W. Phelps explains the policy this way: "The basic objective of good management is to develop good managers. This is one of the finest accomplishments of decentralization."

Oliver gives its plant and distribution office managers the opportunity to prove themselves. They work in an atmosphere of intramural competition which aids

greatly in developing executive leadership.

3. Foreman training. As the bottom echelon of management, foremen are squarely on the labor relations firing line. To employees the foreman is "management", yet too few companies adequately prepare their foremen for the responsibility of management. Foreman selection in many companies is based on highly unscientific criteria. He may be the best worker in a department or the best liked or have the greatest seniority. Slim qualifications, indeed, for the job of foreman!

Careful foreman selection and training is insisted upon by the most successful companies. Men are trained in group lectures on their specific duties, on the workings of the company as a whole and on their vital roles as a part of the management team. Many contend that the best dollar any company can spend is on foreman training.

Motorola, Inc., has an unusual, but highly successful, foreman indoctrination and training plan instituted by Production Manager Walter Scott. Twice a month for

six months, all foremen, assistant superintendents, superintendents and department heads are taken on a day-long tour of manufacturing plants outside its own radio-television field. The purpose is to widen a man's general knowledge of industry.

Foreman Training

Such visits have been made to United States Steel Company's South Works, Elgin National Watch Company, Container Corporation of America, American Can Company, R. R. Donnelley and Sons Company, Sears Roebuck and Company, and the Electro-Motive Division of General Motors. A question and answer period follows the trip, then each man writes a report on what he observed and learned on the tour. From these reports have come suggestions for new methods at Motorola. They also reveal much about the judgment and intelligence of each foreman and superintendent. Furthermore, the tours enable management to size up assistant foremen who

(Continued on page 30)

MEET I.M.C.:

THEY ALLOT THE FREE WORLD'S STOCK OF SCARCE MATERIALS

ALMOST without notice, several of the world's basic commodities in short supply have gone under international allocation this summer. With virtually no press fanfare the U. S. agreed, in concert with a group of other nations of the free world, to accept import and export quotas on sulphur, tungsten, and molybdenum during the third calendar quarter of 1951, and is moving toward similar action with respect to other commodities.

This development in the half-war, half-peace economy under which the western world is attempting to mobilize its resources for defense against Communist aggression is the work of an organization bearing a trilingual title: in Spanish, Conferencia International Sobre Materias Primas; in French, Conference Internationale sur les Matieres Premieres; in English, the International Materials Conference. Or, in U. S. governmentalese, IMC.

27-Nation Membership

Twenty-seven nations comprise its membership. Seven autonomous commodity committees divide the job of allocating to member nations the 14 commodities involved, under the coordinating eye of a central group which has set up for business in Washington's new Cafritz Building. A force of 100 official governmental representatives, 100 alternates, and a staff of 150 advisers and assistants give it a 350-man personnel.

By JACK ROBINS

The organization, which had its genesis in the Truman-Attlee conference in Washington last December, was so slow in showing tangible results that it was scarcely surprising few people were looking by the time it actually got down to work. However it has now set up two international allocations schedules, one for sulphur and one for tungsten-molybdenum.

Sulphur Split Up

The crude sulphur schedule divided up a third quarter supply of 1,415,400 long tons among 23 nations, provided import quotas for 20 of them, and export quotas for three. Under the schedule the U. S. agreed to limit itself to 1,050,000 tons and to export 250,000 tons. The only other exporting countries were Italy and Norway. Chief benefactor of the arrangement was the United Kingdom, which got an import quota for 105,000 tons of its 106,300-ton allocation.

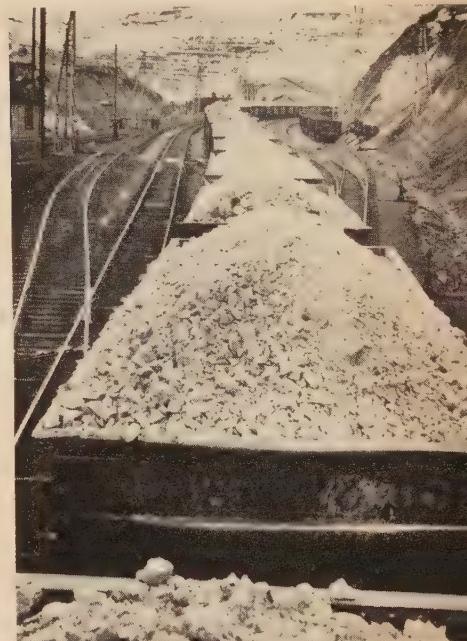
Sulphur is the material used for fertilizer and sulphuric acid, a basic industrial acid of many uses (for example in rayon production).* The big proportion of the world's supply comes from two states of the U. S. — Texas and Louisiana. The shooting upward of U. S. consumption under the impetus of

*For a more detailed discussion of the world sulphur shortage, see "What Happened to Our Sulphur?" COMMERCE, July, 1951.



Acme photos

The international body has already allocated 9,550 tons of newsprint to six hard-pressed European nations.



Copper (being hauled in photo above) is scheduled for early international rationing, but the I.M.C. is reluctant to tinker with politically - sensitive tin (seen in dredging buckets).



our post-Korea defense program, before domestic controls were applied to our economy, quickly made it one of three seriously short commodities for Britain. The other two, also largely U. S. supplied, were cotton and molybdenum.

Molybdenum is, like tungsten, a hardening element used in steel, particularly tool steel, and almost all the world's supply comes from one U. S. mine. America, on the other hand, produces almost no tungsten. The schedule for these two metals divided 2,800 tons of tungsten ores and concentrates (expressed in metric tons of metal content) among the U. S., U. K., France, Germany, Sweden, and four countries accounting for mere fractions of the total. The molybdenum split divided 4,400 tons among the same big five.

In the tungsten quota picture, Britain, with 690 tons, and the U. S., with 630 tons, got the lion's share of imports, with western Germany given 290 tons. Bolivia, with 600 tons, Portugal, with 500, and Spain, with 240, were the big exporters.

In the molybdenum quotas, Britain with 515 tons, and France, with 195 tons, got the biggest imports, while the exporting job was divided between the U. S., 680 tons, Chile, 275 tons, and Norway, 25 tons.

Do all these figures mean that

a soft-headed U. S. has succumbed to foreign blandishments and is permitting exports of raw materials we need for our own defense program? We could, indeed, use the commodities ourselves, but those who accept the Administration's current foreign economic policy — to balance our own defense build-up by a similar strengthening of defense economies among our allies — must accept the IMC as part and parcel of it. It is based on these sentences of the Truman-Attlee communique of last December 8:

"We have surveyed the economic problems and the defense programs of our respective countries, and particularly the existing and threatened shortages of raw materials . . . We have agreed that the maintenance of healthy civilian economies is of vital importance to the success of our defense efforts. We agreed that, while defense production must be given the highest practicable priority in the case of raw materials whose supply is inadequate, the essential civilian requirements of the free countries must be met so far as practicable.

"In order to obtain the necessary materials and to devote them as rapidly as possible to these priority purposes, we have agreed to work closely together for the purpose of increasing supplies of raw materials. We have recognized the

necessity of international action to assure that basic raw materials are distributed equitably in accordance with defense and essential civilian needs. We discussed certain immediate problems of raw material shortages and consideration of these specific matters will continue. We are fully conscious of the increasing necessity of preventing materials and items of strategic importance from flowing into the hands of those who might use them against the free world."

Quotas Established

With this policy for a start, economic officials of the U. S., Britain, and France got together and on January 12 announced the organization of a "central group" for the organization of international commodity committees. Later representatives of Canada, Italy, India, Australia, Brazil, and of the Marshall Plan's Office of European Economic Cooperation and the Organization of American States, were added.

Soon seven commodity committees were organized, embracing the principal supplying and consuming nations of the following commodity groups: (1) copper-zinc-lead; (2) sulphur; (3) cotton-cotton linters; (4) tungsten-molybdenum; (5) manganese-nickel-cobalt; (6) wool; (7) pulp-paper.

It took nearly six months to accomplish the organization and assemble the basic data on which allocations could be attempted, but finally — after the third quarter had started — initial quotas were agreed on.

The only other commodity affected up to mid-August was newsprint. In advance of possible general allocation, the pulp-paper committee recommended emergency allocation of 9,550 short tons to six countries: Greece, India, Malaya and Singapore, Pakistan, the Philippines, and Yugoslavia. This was done, in the interest of the press, to meet stringent shortages.

Accumulation of international statistical data on all the commodities involved, which was the first task facing IMC after organization and which took four months, continues but it is not likely any attempts will be made to work out

(Continued on page 37)



A sound approach to...

Pension Planning

CORPORATE EXECUTIVES considering the establishment of an employees' pension system must make a number of important decisions.

- What benefits should be provided?
- What will the cost be under various types of plans?
- Should the pensions be met on a pay-as-you-go basis, or should they be funded in one of several ways?
- What are the tax and legal impacts of the many federal and state laws, rules and regulations affecting pension plans?

Attorneys, accountants and actuaries specializing

in pension problems should be employed in working out the most suitable plan.

If a trustee plan is to be established, further decisions to be made include:

- Who shall be the trustee?
- How shall the pension funds be invested?

The appointment of American National Bank and Trust Company of Chicago as trustee will assure impartial and efficient administration of the pension plan, as well as experienced and competent supervision of investments.

We welcome an opportunity to discuss these matters with business executives, attorneys, accountants and actuaries.

**American National Bank
and Trust Company of Chicago**



MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION • LA SALLE AT WASHINGTON • CHICAGO 90, ILLINOIS



with the progress of the industries we serve is our highest aim. We handle a complete inventory of cold finished bars in rounds, squares, hexagons, and flats with high standards of accuracy and quality. We also specialize in Precision Shafting and Drill Rod in 3 and 12 ft. lengths.

SEND FOR ATTRACTIVE FOLDER
"Call A Specialist"

THE STEEL SUPPLY COMPANY

26 NORTH ABERDEEN STREET CHICAGO 7, ILLINOIS
Telephone MONroe 6-4212

THE COUNTRY'S MOST FRIENDLY COMPANY OFFERS . . .

- ★ Modern and attractive agent's and general agent's contracts to those looking for a permanent connection.
- ★ Complete line of Life Insurance policy contracts from birth to age 65 with full death benefit from age 0 on juvenile policy contracts.
- ★ Complete line of Accident and Health policy contracts with lifetime benefits.
- ★ Individual Family Hospitalization contracts with surgical, medical and nurse benefits.
- ★ Complete substandard facilities.
- ★ Educational program for field man.

STRONG, PROGRESSIVE COMPANY

Older than 85% of all legal reserve life insurance companies

Company's Expansion Program Offers

Openings in California, Florida, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Jersey, North Dakota, Ohio, and Wisconsin.

NORTH AMERICAN LIFE INSURANCE CO. of Chicago

C. G. Ashbrook, Executive Vice President
North American Building, Chicago 3, Ill.

A "Baby RFC" For Plant Builders

(Continued from page 15)

an assistant, the Defense Transport Administration, to help out on this and on other defense-related tasks.

The Interior Department divides its labors among five defense assistants: its Defense Electric Power Administration handles electric utilities; its Petroleum Administration for Defense handles oil and gas; its Defense Solid Fuels Administration keeps its eye on coal and it even has an agency to look out for fishermen and the things they need, the Defense Fisheries Administration. The fifth Interior Department defense assistant—the Defense Minerals Administration—started in August to yield its money-lending recommending powers to a newly-created agency that promises to grow even more high-powered, the Defense Materials Procurement Agency. Because of the importance of mineral development to the defense program, it is expected that this new agency itself will be making DPA-like loans—even without clearing them through DPA—in the very near future. Criteria—like being related to defense and not being able to get money elsewhere—would still be the same, however.

The fourth "lower" agency that has been laboring on loans for DPA is the Commerce Department with its National Production Au-

thority. This agency handles production of all commodities, products and services that hadn't been covered by the other three "lower" major agencies. That, of course, means most businesses—especially those that do any fabricating, assembling or service-rendering—come under the Commerce Department.

Many Seek Loans

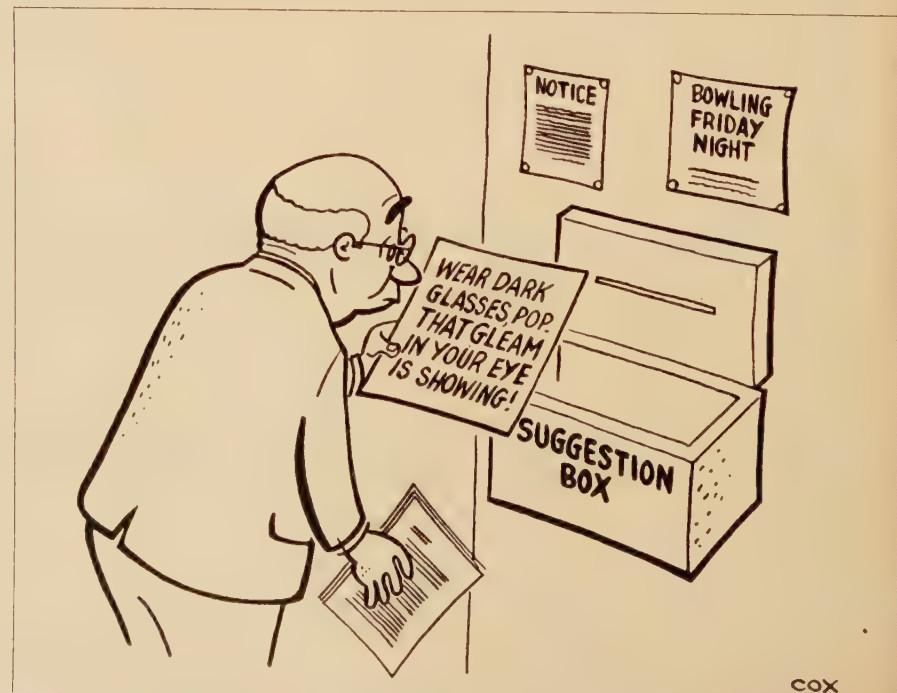
Businessmen have already poured loan applications into the offices of these four recommending agencies and their defense assistants. By July 16, they'd sent in some 875 of them, asking to borrow nearly \$1.5 billion.

During the same time, however, the lower agencies tossed out nearly half those applications—or 382 of them to be exact. They had been seeking \$878 million.

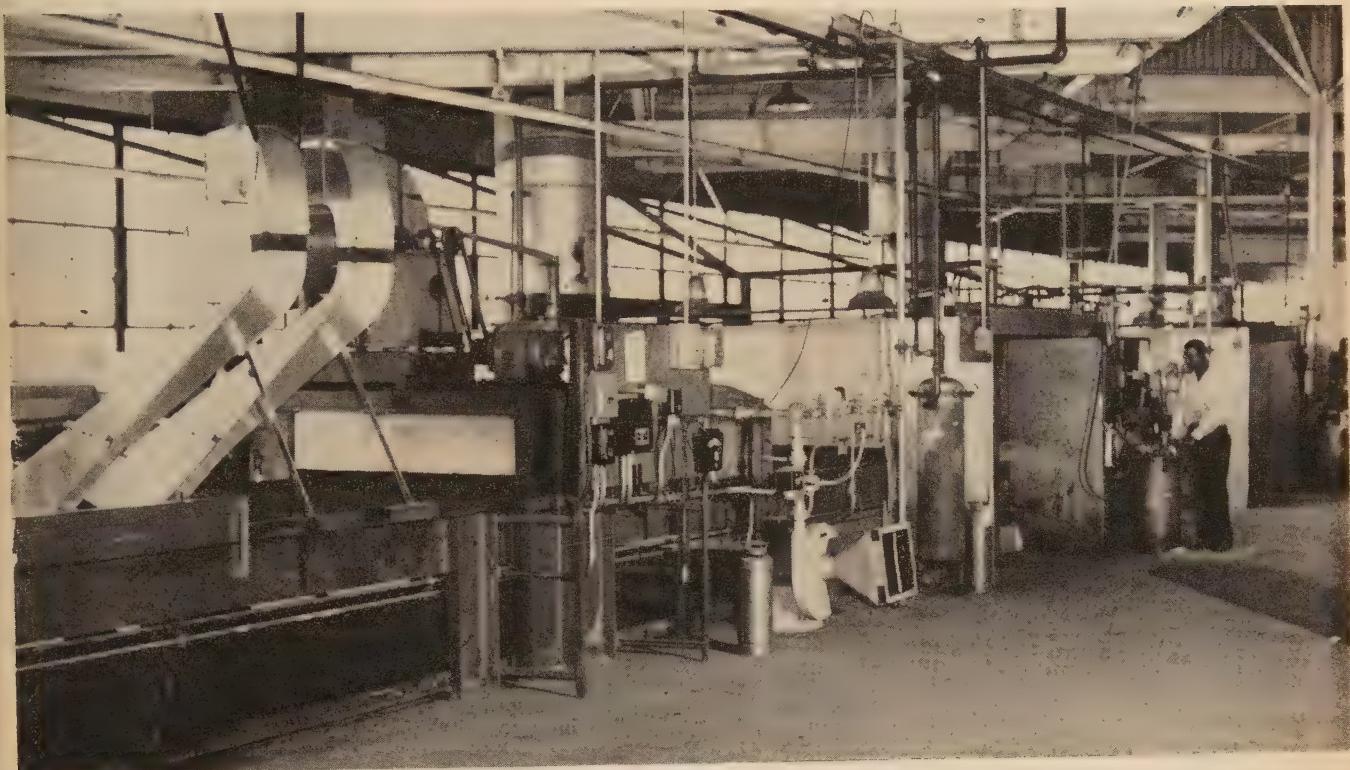
Only 65 applications were actually passed up to DPA with the lower agencies' good wishes. But they had easy going once the lower agencies recommended their approval. DPA authorized 48 of those loans by July 16—though three of them were later withdrawn—and turned down only four.

Another 13 applications were still pending in DPA on July 16 while 428 awaited action in lower agencies.

Defense lenders attribute the rel-



GAS AT WORK



Three gas-fired ovens are used for drying mirror coatings at the plant of the Hamilton Glass Company, 2750 West Grand Avenue, Chicago, Ill.

AT THE plant of the Hamilton Glass Company, a conveyor 275 feet in length and running at a speed of seven feet per minute, is being used for the manufacture of mirrors. Polished plate glass is first treated with a silver nitrate solution at room temperature and is then sprayed with two protective coatings.

After each coating is applied, the glass is dried at just the right temperature in a gas-fired oven. One of the first companies in the country to use gas for this purpose, the Hamilton Glass Company with a daily production of 5000 mirrors per shift, has found gas to be the ideal fuel for doing this work.

Get a better picture of your business insurance needs

NOW, a plan that shows you clearly how to guarantee the continuation of your business — how to protect your family's interest. Call The Prudential Agency near you and ask about

The OWNERSHIP CONTROL PLAN

THE PRUDENTIAL INSURANCE
COMPANY OF AMERICA

A mutual life insurance company



HOME OFFICE:

NEWARK, N. J.

KLEIN TOOLS for LINEMEN ELECTRICIANS MECHANICS



Mathias & Sons
KLEIN & Sons
3200 Belmont Avenue, Chicago, Illinois

Mobilization Chief Visits Hotpoint Jet Plant

Charles E. Wilson last month made his first visit as Director of Defense Mobilization to the Midwest to inspect Hotpoint, Inc.'s new jet engine plant here. Wilson complimented officials of the big home appliance company on getting first pilot runs off the lines in its new million square foot jet engine plant 60 days ahead of original schedule. He is shown here with James J. Nance, Hotpoint president, right, and Fred J. Walters, vice-president of defense, left, viewing first combustion chambers and compressor cases for Pratt and Whitney J-48 jet engines.



atively high rate of loan rejections in the lower agencies so far to one of these three causes: first, many of the projects the loans were to finance were not "sufficiently" related to defense. Second, many of the sought loans were available on "reasonable" terms from private sources. Third, many others would have been unnecessary had the applicants asked the Defense Department for partial payments or "progress" payments on contracts being filled for that agency.

The third cause, of course, can easily be avoided by businessmen in the future. They might bear in mind that if they're working on a contract and need money they can approach the Defense Department for a partial payment and if that doesn't go far enough, they can then come to DPA for a loan.

But the other two hurdles — a "sufficient relationship to defense" and money not being available elsewhere on "reasonable" terms — businessmen will have to interpret for themselves. Defense lenders admit they've got no definitions for those terms themselves.

Their past actions on approved loans—the only ones they'll make public at all (and then in scanty detail) — reveals the relationship to defense doesn't always have to be immediate.

For example, on March 22, 1951, DPA loaned American Buslines Inc. of Chicago \$2,025,000 because it is the only busline serving 14 military installations. The lenders conceded that some of these points,

at least, were served by rail. What's more, the biggest part of the loan went into the company's "working capital" while the next biggest chunk — \$600,000 of it — went to pay off an old loan to a private bank.

If that's puzzling, defense lenders can't do any better in clarifying what they mean by "reasonable terms" from a private source.

"We've no definition of 'reasonable' terms," a top DPA official states. "I'd say they would be terms that wouldn't put a company out of business. And they wouldn't be loan shark terms. We'd have to judge each application on its own merits," he insists.

Interest Rates

DPA's own terms usually consist of a 5 pc interest rate and anywhere from a few months to ten years to pay. The only exception to the 5 pc interest rate — by mid-July — had been 4.5 pc rates granted on loans to three steel companies: Hazelton Steel Co. of Hazelton, Pa. (for \$7,800,000), Lone Star Steel Co. of Dallas (\$23 million) and Green River Steel Corp. of Owensboro, Ky. (\$5 million).

The Hazelton loan, however, was among three later withdrawn. The other two withdrawn loans were to the Nicholson Universal Steamship Co. of Detroit (\$5 million to convert three ocean vessels to Great Lakes boats) and to the Arctic Block Construction Co.

come in and save

KING-SIZE GAS BUY!

PREMIUM VOLATILITY at REGULAR PRICE!

Get the gas that gives you at regular price the controlled volatility you'd expect in premium gasoline. You save with RED CROWN's great combination of smooth flowing power and agility in traffic with best possible mileage. Save with STANDARD RED CROWN Gasoline.

RED CROWN

STANDARD



(\$60,000 to finance construction of military housing in Alaska). DPA says some of these companies found private financing and so withdrew their loan requests but refuses to go into any more detail for fear of violating "business confidences."

Just as it has made exceptions, though very few, on its interest charges, DPA has also made exceptions — more frequently — on the period of repayment. Some firms, like Lone Star Steel and Roller Bearing Co. of America at Tren-

ton, New Jersey, for example, received 20-year loans from DPA.

The agency's collateral requirements are not strict. DPA is usually satisfied if \$1 backs up each dollar it lends. The RFC usually requires at least \$2 backing for every \$1 it lends in "peacetime-type" loans. Private lenders usually require considerably more.

There's nothing to stop a businessman from borrowing part of the money he needs from a private bank, providing it's all he can get

from private sources, and then coming on and borrowing more from RFC — again to the hilt — and approaching DPA for still another helping.

DPA officials even look with favor on that practice since, they say, it will more evenly distribute the burden on various lenders according to the way it should be distributed. So, for example, the DPA men will point out that Green River Steel Corp. got an RFC loan for \$3,556,126 before it ever got its \$5 million DPA loan. DPA officials figure their \$5 million covered the future plant's defense aspects.

The DPA men say they'll go on using loans, if need be, to keep the country's industry expanding in the general direction of defense "so long as Congress decides it necessary."

EVERYTHING IN LIGHTING FIXTURES

CHICAGO'S MOST COMPLETE
AND MODERN

NEW DISPLAY ROOMS

Now Ready

TO FACILITATE YOUR SELECTIONS



LIGHTING FIXTURE
HEADQUARTERS

- BIG STOCKS
ALL TYPES AND STYLES

- COMPLETE
**MODERN
LIGHTING**

SERVICE

- COMMERCIAL
RESIDENTIAL
INDUSTRIAL

SEELEY 8-3500



• EFENGEE'S NEW DISPLAY ROOMS make it easy to select the Lighting Fixtures you want . . . whether for a modest home, elegant mansion, big apartment, store, office, small or large industrial plant. Leading lines and Long Experience enable us to give you real help on Modern Lighting problems. Everything all on one floor, including installation accessories. Plenty of parking space! Immediate delivery on all selections.

★ SEE THESE DISPLAYS NOW
Or Phone for Suggestions

EFENGEE ELECTRICAL SUPPLY CO., INC.

949-969 W. CHICAGO AVE. • CHICAGO 22, ILLINOIS

WAUKEGAN BRANCH

INTERSTATE ELECTRICAL SUPPLY CO.

915 GLEN FLORA

Key To Good Management

(Continued from page 22)

carry on in the absence of their superiors. The cost of this out-of-training, incidentally, is exceptionally low.

At Standard Register Company in Dayton, Ohio, company foremen participate in a "Factory Management Council," which meets weekly to solve operating problems. A foremen's magazine called "Notes and Quotes" keeps them posted on affairs in Washington and labor developments. United States Steel Company gives each foreman a booklet called "The Public And You" to help him explain the company to friends and neighbors.

4. Employee communication. A well-informed employee has the best chance of being a satisfied employee. He wants to belong, and a knowledge of "what's going on" makes him feel he does belong. His sense of security increases in almost direct ratio to the amount of information he receives regarding the company and his particular position in it.

The techniques of employee communication are numerous. They include monthly discussions with employees covering such topics as policy, financial progress, and job costs; employee newsletters, magazines and newspapers; the distribution of a simplified annual state-

ent, an invitation to all employees to bring their problems directly to department heads; and keeping communication lines open through foremen or supervisors.

The actual program is not as important as the approach. Successful programs share these common characteristics:

Top management has recognized the importance of the individual and above all has convinced him of it.

They allow the employee to be heard, as well as management.

Instead of making it a one-man job, they have made it the responsibility of every executive, supervisor and foreman.

Each program has been a continual job, utilizing every available means to get it across, including meetings, pictures, magazines and newspapers.

When Celotex Corporation modernized and expanded its Marrero, La., plant, a complete evaluation of jobs became necessary. As a preliminary, the company discussed the need for the study with union representatives, explaining that new job descriptions would help wages to reflect actual work output more equitably. With the purpose clarified, the union agreed to accept a job evaluation plan to be drawn up by outside management engineers. Then each job description was reviewed by the worker and foreman involved.

Employee Cooperation

Job descriptions were reviewed and rewritten with a resulting reduction in classifications. The company announced, however, that it would not lower the wage rate of any worker then on the job. The new rates went into effect only when a new worker was put on a job or where it would raise a man's pay. Finally, the company gave each worker a cleverly illustrated booklet, "Your Job and Its Evaluation," explaining the plan.

This kind of communication, outside the realm of the house organ and bulletin board, is often overlooked as a means of gaining employee teamwork and cooperation. Yet we all know that we cooperate most when we understand our part in any undertaking.

5. Employee compensation. Despite

Meet Your "No. 1" FREIGHT INFORMATION MAN



Your Santa Fe Freight Representative knows the answers to your problems

Your Santa Fe freight representative is a professional "answer man," with ready access to the collective information, knowledge and "know-how" of Santa Fe's entire organization of transportation specialists.

He is either in your town, or has your town assigned to him. Either way, he is no further away than your telephone.

Call on him freely for expert advice on your shipping problems. Find out why *it pays to ship Santa Fe all the way*.

F. H. Rockwell, General Freight Traffic Mgr.
Santa Fe System Lines, Chicago 4, Illinois

Santa Fe—all the way



popular misconceptions to the contrary, wages alone do not determine costs. It is not how much workers are paid, but how much they produce in return for their pay that determines costs.

Don't be misled! The window-dressing—pensions, insurance and similar side benefits—is no substitute for good wages, certainly in the eyes of workers. Management's expressed concern for the welfare of employes is taken with skepticism when pay scales are below average. It is no accident that companies with the highest take-home pay are usually those with the lowest unit costs.

Wage Incentives

Job standards set through time study and job evaluation provide yardsticks for measuring a fair output for wages paid. Companies with good human engineering have progressive compensation programs that include wage incentives, above-average wages and profit-sharing plans. Sears Roebuck is noted for its profit-sharing plan which has paid off handsomely for its em-

ployees. Motorola and Jewel Tea, both of which have instituted profit-sharing systems, pay among the highest wages in their industries.

Motorola believes in paying higher-than-average wages partly to benefit the community in which it operates. Jewel Tea pays better-than-average wages, yet it competes aggressively, cost-wise, by educating employes to the fact that they have to produce more work to justify their wages. Management emphasizes that the company cannot dip into a bottomless barrel of cash to pay higher wages.

William G. Caples, former manager of industrial relations for Inland Steel Company and now president of a subsidiary company, Inland Steel Container, explains that payment of better-than-average wages pays off in many ways.

"It develops better managers because it makes management work harder than ever," he declares. "Management cannot survive if it pays higher wages and does not do a better job of managing."

He also sees a long-range benefit in better plant communities. As

Caples explains it, "If you pay better wages, workers will be able to live in better houses, support better schools. This better community automatically attracts a better kind of employee and gives Inland a better labor pool on which to draw."

6. Good organization. To utilize fully the talents of executives and workers alike, the duties and responsibilities of all personnel must be clearly defined. This requires an evaluation of every job in the company, including that of vice-president. To get away from one-man management, many companies decentralize authority from the home office, delegate policy-making to an executive council, or in some other way work on the formula that "two heads are better than one."

"Upside-Down" Idea

To lick the "Ivory Tower" complex common to many management, Jewel Tea has developed a "First Assistant Philosophy." Each of the company's executives is asked to consider himself as the first assistant to his closest subordinate. Thus, the organization chart is turned upside down and each executive feels that his job is to help the next man up on the upside-down chart.

Explains Jewel Tea President Clements, "If an executive is being picked to work for those he presumably supervises, then he should be a man who can cover or bolster their weaknesses, rather than merely supplement their strengths. In that way, he can not only make a real contribution to the efforts of his team, but he can also be the means through which his men develop their own abilities."

Human engineering in business has many facets and many approaches. No specific program will work for all companies. Every company has its own particular problems that are tied up with the past practices of its industry or its own management.

Some companies feel they have neither the time nor the money to develop progressive personnel programs. Successful companies learned years ago that they cannot afford to be without a sound well-rounded program for the development of their human resources. After all, their biggest investment is in their people!

Enjoy the whiskey that's "Cheerful as its Name"

Old Sunny Brook

BRAND



White Label

KENTUCKY
STRAIGHT
BOURBON
WHISKEY

93
PROOF

Yellow Label

KENTUCKY
WHISKEY
—A
BLEND

93
PROOF



THE OLD SUNNY BROOK COMPANY, LOUISVILLE, KENTUCKY

Gold Seal Liquors, Inc.

Exclusive Distributors — Chicago

Here, There and Everywhere

(Continued from page 8)

the foamed rubber-resin blend, HS 160, was developed by B. F. Goodrich Chemical Company. Replacing Ebonite filling for propellers, HS 160 is more resistant to impact and can be processed in 25 per cent less time.

- Flying Pillows — The Crusade for Freedom is undertaking a mass invasion of the Iron Curtain countries—with balloons. Thousands of balloons carrying literature will be launched in Europe shortly. The project was made possible by the development of a durable polyethylene balloon whose destination can be carefully determined. General Mills, Inc. developed the balloon and is producing it.

- Some Suds — Enough beer to fill 1,500,000 glasses to foaming over was dumped by the Pabst Brewing Company for fear of flood damage to the amber liquid. The company could have salvaged some of the \$200,000 worth that came in contact with raging flood waters but chose to absorb the loss, replacing beer to Kansas and Missouri wholesalers and retailers free.

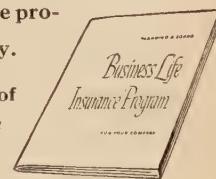
- More Shipbuilding — Britain's shipbuilding industry is running full steam ahead, with four times more shipping under construction than any other country. In work during the second quarter of 1951 were 3.2 million tons, a new post-war peak. The number of vessels on which work was begun in British yards during the second quarter was 79. Britain sees full employment in her shipyards for three years, without taking naval work into account.

- Union Administration — A bulletin describing the administration of a union local has been published by the New York State School of Industrial and Labor Relations at Cornell University. Entitled "Day In, Day Out," the pamphlet is based on a study of Local Three of the International Brotherhood of Electrical Workers of New York City. It may be purchased for 15 cents from Cornell University, Ithaca, New York.

Protecting YOUR BUSINESS with Life Insurance

Many successful businesses have been confronted with serious problems because of the death of one or more partners, owners or other executives. Well planned life insurance protection can help you to solve this contingency.

Write on your business letterhead for a copy of our brochure "Planning a Sound Business Life Insurance Program For Your Company."



MARSH & McLENNAN

INCORPORATED

INSURANCE BROKERS • CONSULTING ACTUARIES

231 South La Salle Street • Chicago

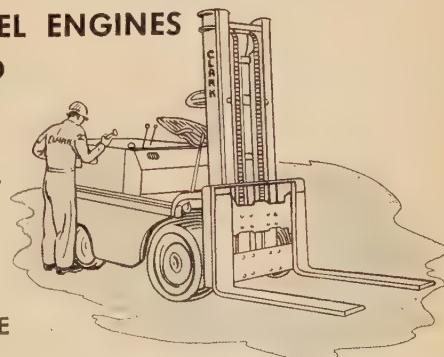
Chicago New York San Francisco Minneapolis Detroit Boston Los Angeles Pittsburgh
Seattle St. Louis St. Paul Duluth Indianapolis Portland Superior Cleveland
Buffalo Columbus Phoenix Vancouver Toronto Montreal Havana London

authorized
CLARK **Industrial TRUCK**
PARTS and SERVICE STATION

COMPLETE REBUILDING FACILITIES
FOR ALL MAKES OF INDUSTRIAL TRUCKS &
GASOLINE & DIESEL ENGINES
TRUCKS LEASED
FOR LONG OR
SHORT TERMS

*Emergency Service and
Periodic Lubrication
In Your Plant*

PICK UP & DELIVERY SERVICE



Phone

HU dson 3-8410

Lift Truck Service Company

6919 S. HALSTED ST.

A GREAT COMMUNITY MUST HAVE GREAT CULTURAL ASSETS



No community can achieve industrial pre-eminence unless, in addition to its natural advantages, it has the assets that contribute to diversified cultural opportunity. The broad variety of these cultural advantages, developed and enjoyed by the people who live in Chicago and Northern Illinois, have played an important role in making this the great industrial empire of mid-America.

An example is the Chicago Symphony Orchestra. For more than half a century this great organization has spread the enjoyment of music over an ever-widening area. In addition to its enthusiastic following among lovers of the best music, the Chicago Symphony has brought an appreciation of music to generations of youngsters in schools and colleges. It has thus served as an interpreter of the world's music to Chicago area people.

But the Symphony is only one of the renowned institutions that bring a full, cultural life to this dynamic community. It takes its place beside the Chicago Art Institute, the Chicago Natural History Museum, the Museum of Science and Industry, the Chicago Public Library, the John Crerar Library, the Newberry Library, the Chicago Historical Society and this area's great universities and medical schools . . . together forming one of the world's greatest centers of learning and the arts.

Indeed, great natural and economic assets are essential to a great community. But opportunities for self-development are equally important. Industrialists, their employees, and their families will find in Chicago and Northern Illinois an abundance of both.

TERRITORIAL INFORMATION DEPARTMENT
Marquette Building—140 South Dearborn Street, Chicago 3, Illinois

COMMONWEALTH EDISON COMPANY • PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS



Invest in the MIDDLE WEST

Reviews of Middle-western Companies

By DANIEL F. NICHOLSON

AFTER many years as a "marginal" railroad, prosperous only in wartime or in periods of extraordinary business activity, the Chicago and Eastern Illinois Railroad Company has been making progress under the influence of aggressive new management and has prospects of becoming one of the country's stronger railroads.

Strangely, a major part of the improved traffic expected to be realized soon will be the carrying of coal, although the coal industry itself has been losing ground seriously to competitive fuels.

New Plants To Supply

Three huge new steam powered electric generating plants are under construction at points served by the C & E I or readily accessible to it. The Public Service Company of Indiana is building a plant near Terre Haute, Ind., to meet the power needs of this growing industrial area; at Joppa, Ill., on the Ohio river, a power plant with 625,000 K. W. capacity is being built by five companies to provide power for an atomic energy plant about 17 miles from Paducah, Ky.; across the river from Joppa, in Kentucky, a similar plant of 625,000 K. W. capacity is being built by the Tennessee Valley Authority, also to provide power for the atomic energy plant.

These three plants will consume enormous quantities of coal from the coal fields of Illinois and Indiana, through which the C & E I's tracks pass. The railroad is laying track to the Terre Haute power plant and to the Joppa plant, at a cost of around \$300,000 in each case. In addition, the carrier is enlarging and improving its rail-to-barge facilities at Joppa, at a cost estimated at around \$250,000, including new coal dumping facilities, a belt conveyor, and track

changes. The railroad already has a contract to deliver a half million tons of coal each year at the Joppa docks for transfer to barges that will haul it to the TVA plant at Johnson City, Tenn.

In the past the C & E I has not maintained a coal car fleet in keeping with the fact that the railroad cuts through the coal producing territories of two states. While coal is the principal commodity carried, the C & E I has received only a small portion of the available tonnage because the mines favored the larger railroads that consumed more of their product.

In anticipation of the prospective larger tonnage of coal, the C & E I has ordered 2,000 new hopper coal cars. One thousand of these are scheduled for delivery by the end of this year, and the balance in June, 1952. Hopper cars represent about 65 per cent of all freight cars received or on order from 1945 to date. The company received or has on order this year 1,200 new box cars.

The Chicago and Eastern Illinois Railroad Company operates 886 miles of railroad, terminating at Chicago on the north and with main lines to St. Louis, to southern Illinois, and to southern Indiana. Major towns and cities served include Evansville, Vincennes, and Terre Haute, Ind., Danville, Chicago Heights, and Chicago, Ill., and St. Louis, Mo.

Heavy "Bridge" Traffic

The C & E I connects with many important railroads at its terminal points and at intermediate points, and more than half of its traffic is "bridge" traffic, that is, business received from connections and delivered to connections.

The branch line into Indiana has been an important producer of traffic and the communities served have been expanding. In Evansville the company serves such customers as

Planned
Printed



Programs & Materials

- SALES MEN'S PORTFOLIO PRESENTATIONS • JOBBER-DEALER BROADSIDES • JOBBER-DEALER HOUSE ORGANS • CATALOGS & SHEETS • FLYERS AND SALES BULLETINS

Everything in printing
• From creation to finished product • Complete or any part



Chicago's Friendliest Printing Service

FROM CREATION TO FINISHED PRODUCT
GEORGE C. MELIN
Printing Craftsmen
TYPESETTING • OFFSET • LETTERPRESS
161 WEST HARRISON STREET • CHICAGO 5, ILL.
Phone: WAbash 2-4018

HOT TIN DIPPING

Specializing in quantity production of industrial fabricated parts in steel — copper — brass — Hotel — Restaurant — Dairy — Bakery equipment. Sheets — bars — tubes — pipe — etc.

Lead & special mixture coatings.
Operating largest facilities in the industry.

C. DOERING & SON, Inc.

LAKE & LOOMIS STS.
MONroe 6-0921

Do you route Commerce to the officer or office in charge of Sub-Contracting?

Advertisers on pages 52 and 53 of this issue announce their availability and facilities for performing a wide variety of secondary operations in defense production.

Your production department might make profitable use of this information.

the Chrysler Corporation's assembly plant for Plymouth cars; Seeger-Sunbeam Corporation, maker of refrigerators for Sears Roebuck; Servel, Inc.; Iglehart Division of General Foods Corporation; Briggs Body; and International Steel. Recently the railroad completed its new Wansford yard at Evansville, at a cost of a half million dollars. The new yard increases the facilities serving Evansville by 300 per cent.

Industrial Property Owned

Several industrial sites adjacent to its tracks are owned by the C & E I, including 242 acres adjoining the Wansford yard, acreage at Chicago Heights, Ill., served by the wholly-owned Chicago Heights Terminal Transfer Railroad Company, and 73 acres recently purchased on the Calumet River in the heavily industrialized area immediately south of Chicago.

Taking advantage of the good earnings and improved finances resulting from heavy wartime traffic, the C & E I has made extensive capital improvements. Since May,

1950, the railroad has been completely dieselized, with "noticeable economies in operating costs." Last year \$5,475,000 was spent on new equipment, and an additional \$17,385,000 of new rolling stock, consisting primarily of the 2,000 hopper coal cars, 1,200 cars and four diesel road locomotives, received or on order in 1951, will bring the total investment in new equipment to \$36,690,000 since 1945.

The Chicago & Eastern Illinois Railroad Company was incorporated in 1940 and on December 31, 1940, acquired the assets and certain liabilities of the Chicago and Eastern Illinois Railroad Company under a plan of reorganization that cut fixed charges about 70 per cent. The predecessor, in turn, had succeeded an earlier company as of January 1, 1922, pursuant to a plan of reorganization.

The latest reorganization plan was effective as of January 1, 1937, and the new company has earned its fixed charges on the reorganized basis each year since 1937 except in 1946. The predecessor failed to

cover fixed charges from 1930 to 1940, inclusive.

Last year the C & E I made the best net profit since the present company was formed and the second best in the railroad's entire 101-year history. Gross operating revenues increased ten per cent in 1950 to \$30,577,220, but operating expenses declined to \$21,944,993, a drop of seven per cent. The decline in operating expenses included savings of \$498,826 on repairs to freight cars, \$218,752 on locomotive repairs, \$570,442 on transportation expenses, \$214,497 on maintenance of way and structures, and \$204,560 on other operating expenses. A number of unprofitable passenger trains were discontinued in 1950.

Net earnings for 1950, after all charges, including contingent interest, amounted to \$2,658,418, equal to about \$7 a share on the company's class A stock and to \$5.50 a share on the common. In the preceding year contingent interest was not fully covered, the deficiency being \$418,921. In other recent years the company reported the following net income: 1948, \$779,407; 1947, \$844,803; 1946, a deficit of \$517,902; 1945, \$1,052,452; 1944, \$1,463,571; 1943, \$1,846,422; 1942, \$2,035,370; 1941, \$218,966.

Debt Changes

At the end of 1950 the railroad had \$36,940,255 of long term debt, against \$30,167,127 at the end of 1949. While the mortgage debt has been reduced steadily and stood at \$21,395,900 at December 31, last, as compared with more than \$25,000,000 at the end of 1941, equipment trust obligations during the same period increased from \$796,000 to \$15,544,355. Further substantial additions to outstanding debt will be required to finance the capital improvements and equipment buying programs still under way.

The mortgage debt consists of \$8,288,000 of first mortgage bonds and \$13,107,900 of general mortgage income bonds. The latter are entitled to maximum interest of five per cent, to the extent earned. Each \$1,000 income bond is convertible into 40 shares of common stock.

Outstanding stock at the end of 1950 consisted of 383,751 shares of \$40 par value class A stock and

Serving the Individual Insurance Needs of Business, Industry and the home for 59 years

A Special C.P.WY Policy

...good worker

Employers welcome our ability to handle their Workmen's Compensation insurance program. Why? Because it's like adding another good worker to their staff . . . without additional expense.

This worker—a qualified safety engineer—is part of every Compensation policy we sell. He helps reduce your operating costs, shows you how to increase efficiency and turn out more goods.

Most of all he affects the cost of your insurance, cuts down loss ratio and qualifies your organization for greater benefits under experienced rating procedures.

Interested? . . . This man is at your service!

Conkling, Price & Webb
175 WEST JACKSON BOULEVARD
CHICAGO 4, ILL. • WAbash 2-1220

General Agents
LONDON GUARANTEE AND ACCIDENT COMPANY, LTD.

343,179 shares of no par value common. The class A stock has preference over the common as to assets and dividends, and is entitled to dividends of \$2 a share annually, payable and cumulative only to the extent earned. Both stocks are listed on the New York Stock Exchange.

Dividends were paid on the reorganized company's stocks for the first time in 1943. The class A received \$2.59 a share, of which 59 cents represented earnings in 1941 and \$2 represented a distribution of 1942 earnings. The holders of the common stock received 50 cents a share in 1943 but have received no other dividends since. Subsequent dividends on the senior stock were as follows: 1944-45, \$2; 1946, \$1; 1947, none; 1948, \$1; 1949, \$1; 1950, \$1. In March, 1951, a dividend of \$2 a share, payable quarterly, was declared. Giving effect to the 1951 distribution, dividends accumulated on the class A stock total \$2 a share.

As of December 31, last, the C & E I reported total assets of \$89,306,275 as compared with \$78,995,300 at the end of 1949. Current assets of \$10,362,602 included \$4,119,394 cash, \$2,449,533 accounts receivable, and \$1,869,867 materials and supplies. Current liabilities aggregated \$6,797,142, leaving net working capital of \$3,565,460.

Expect Gain To Continue

In the annual report for 1950, the C & E I management advised stockholders that "All indications point to a continuation throughout 1951 of the increase in traffic which became apparent during the latter months of 1950. Industrial production during 1951 will be linked more closely to military requirements; however, further expansion in that direction appears certain."

The report noted that the new facilities under construction to transfer coal from rail cars to barges at Joppa will provide rail-barge transportation to markets on the Ohio river and its tributaries not now available to coal producers in the territories served by the company. A number of new industries were located on the company's lines during 1950, and further developments are in active ne-

gotiation or in the planning stage, the report stated. The C & E I management is credited by impartial observers with being respon-

sible for much of the industrial development that is being undertaken in the communities served by the railroad.

Meet IMC: They Allot Scarce Materials

(Continued from page 24)

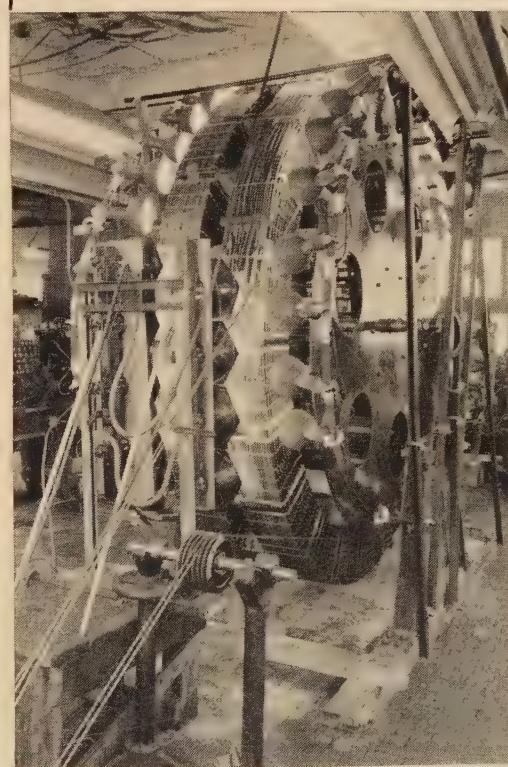
further allotments prior to the final quarter of 1951.

Next on the list of probable internationally rationed commodities are copper and zinc. Lead is not quite as much of a problem as these two. Similarly, officials foresee ex-

tension of the system to nickel and cobalt. Manganese is being held over for further study. Newsprint is also a candidate. On the basis of good U. S. crop forecasts, it seems virtually certain that raw cotton will not be subject to allocation,

Something special in mind?

...call HYRE



Bake-drying coil for Cornell University cyclotron in Hyre's own coil winding department. This is one of several such units built by Hyre for atomic research installations.

You probably don't own a cyclotron. Few people do—yet. But if you should suddenly go in for atom-smashing equipment, Hyre can help build it!

Yes, we do all sorts of "special" electrical work—jobs which require higher-than-average skill, technical knowledge and experience. In fact, we have departments set up to handle all types of lighting, power wiring, electronic aircraft landing systems, street lighting and traffic signals, television relay towers, etc.

But even with all the "specials" we handle, our bread and butter still comes from routine, unglamorous electrical contracting. So whatever your electrical needs—plain or "special," small job or big project—call Hyre, and you call the best.

- Motors
- Generators
- Controls
- Repairs
- Engineering
- Construction
- Installation
- Maintenance

HYRE

ELECTRIC CO.

SINCE 1912

2320 W. Ogden Blvd. • CHesapeake 3-6100

INDUSTRIAL • COMMERCIAL LIGHT AND POWER



ELECTRON TUBES for INDUSTRY

FOR USE IN

- RESISTANCE WELDERS
- ELECTRONIC RECTIFIERS
- INDUCTION HEATERS
- TV-AM-FM BROADCAST
- MOTOR CONTROLS

COMPLETE STOCKS

TELEVISION, RADIO, AND
ELECTRONIC COMPONENTS
FOR INDUSTRY

- | | |
|----------------|----------------|
| • Condensers | • Meters |
| • Resistors | • Test Equip't |
| • Transformers | • Connectors |
| • Relays | • Controls |



311 S. Western Ave. Chicago 12, Ill.

Phone CANAL 6-2525



Constructive ADVERTISING

Planned

Created...

and "Put to Work"

For Better Results

If you are not satisfied with the results you are getting from your present advertising, we welcome the opportunity of discussing your problem with you. Our competent and experienced staff can develop a program, complete in every phase, on any product or service that does not compete with our present clients.

Recognized by: ANPA • APA • PPA • ABP

The Advertising Corporation

T. W. Merrill, President
176 West Adams St., Chicago 3
Financial 6-4161

although cotton linters—the small fibres used for explosives, plastics, photographic paper and other purposes—may still be included.

Authorities have also studied the advisability of setting up an eighth group to handle industrial fats and oils.

The failure to embrace two other short commodities—tin and rubber—in the system is explained by the fact that study groups for both had been set up prior to the formation of IMC.

Back of that, however, is the fact that tin and rubber would bring into the conference a politically sensitive area of the world—Indonesia and Malaya—and it is deemed unwise to extend operations of a cooperative nature into these fields. However wool, another "hot" commodity in international politics, is currently the subject of intense negotiation, and if the nations work out a sharing arrangement on wool it is possible tin and rubber will be included too.

Weakness of IMC

Organizationally the weakness of IMC is its reliance on cooperation. It has none of the power of the Combined Materials Board of World War II, and depends entirely on voluntary action by the governments involved. During the war the Allies not only were able to control the raw materials in their territories, but had a firm grasp on the shipping required to distribute them, as well as authority over prices and money for subsidy-incentives for greater production. IMC's only effect on prices is the indirect one of reducing competition.

Lacking that now, the west's leaders had three choices in trying to cope with the inevitable shortages that followed mobilization:

Letting each country go it alone, bidding against each other and thus skyrocketing prices.

Setting up a comprehensive world organization to allocate materials at fixed prices. Because of the large number of countries involved and the range of commodities, this was a practical impossibility under other than strictly wartime conditions.

The third course, which was followed, was to invite cooperation of producers and consumers around

a conference table, working out means of eliminating unnecessary and wasteful competition and accomplishing a fair distribution in the joint interest.

Will such a voluntary system work? There is no treaty authorizing IMC, no absolute directive powers, just the word of the member governments. IMC cannot really make allocations, only "recommendations" to the various nations. However, one feature is that most of the experts who have been designated to represent the various governments are the same men who direct or advise on their national policies back home. Thus in a practical way the prospect of effective cooperation is achieved.

But if Soviet reaction is any barometer of success, IMC has already received the accolade of deep suspicion from the Russians. Recently the State Department received and translated an article from Vneshnyaya Torgovlya, the official bulletin of the Soviet Ministry of Foreign Trade, in which two writers, S. Viktorov and G. Maximov, attacked the IMC as a capitalistic trick of the "Anglo-American bloc" to snatch raw materials from smaller countries.

Creation of IMC, the authors contended, "signifies that England has again had to retreat under the pressure of American imperialism. Nevertheless, the English imperialists are striving mightily to preserve their positions on raw material markets and this in its turn leads to an increase in tension between the Americans and the English."

Russian Propaganda View

The Russians also claimed that public opinion had become aroused over this situation, and to quiet it "the capitalist press strives to prove that the decisions of the central organization for raw materials will not have obligatory force, that they will be only 'recommendations,' and that all questions will be decided by means of agreement between the interested countries."

The authors commented: "Such explanations of course can convince no one. The United States has not for this purpose created a complicated and cumbersome mechanism of control over world markets and raw materials, so that other countries could independently deter-

mine and satisfy their needs in raw materials. Having taken into its own hands such a strong means of influencing the supply of raw materials, the USA is striving to an even greater degree to subject to its dictates the policy and economics of the other capitalist countries with the objective of preparing for a new aggressive war."

Complicated and cumbersome the IMC mechanism is, to be sure. But perhaps the twisted, suspicious logic of the Communist mind is no more than a reflection of the fear that the free nations have forged another economic weapon in the fight against Communism.

Up With the Helicopter

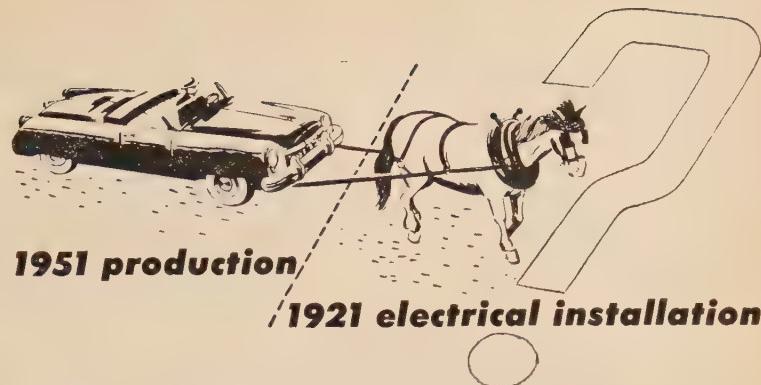
(Continued from page 17)

propellers pushes insecticide ground-ward with such force that even the plants' under sides are covered.

Other agricultural jobs now handled by helicopters include weed killing (used extensively on the Pacific Coast and in the big Midwest farm belt), timber inspection and fire-fighting, seeding, and cattle round-ups. When crop-dusting experiments revealed the power in the big propellers' down draft, this force was recruited to save the fruit growing and packing industry thousands of dollars in ruined cherries. Heavy rain, followed by a boiling sun, had threatened to split the fruit on the trees. The helicopters' down-draft blew the water off before any damage could be done and the entire pack was saved.

The fishing industry has found the helicopter to be invaluable in tracking down schools of tuna and other commercial fish. It is widely used for power and pipe line inspection and maintenance, where its foot-by-foot locomotive ability permits careful scrutiny of every inch of line. Repair men can be quickly lowered wherever breaks appear, no matter how rough or mountainous the terrain may be. These same attributes make the machines ideal for laying lines and cables, as many power companies have learned.

One of the best indications that the helicopter has finally come into its own is its success as a mail carrier. Both Chicago and Los Angeles have had regular helicopter air mail service for some months. In Los Angeles, helicopters recently trans-



1951 production

1921 electrical installation

Out-dated, antiquated and over-loaded electrical systems can hardly be expected to furnish the production facilities necessary to meet anticipated, accelerated, atomic-minded 1951 production schedules. The economical solution of your modernization problem, no matter how complex, is a specialty of Kelso-Burnett.

K-B service is comprehensive and convenient . . . a single organization with over 43 years experience in combining surveys, layouts, engineering, procurement, and construction into one efficiently integrated package.



*Electrical
Modernization
is our
specialty*

FOR Engineered Electrical Construction

CALL OR WRITE . . .

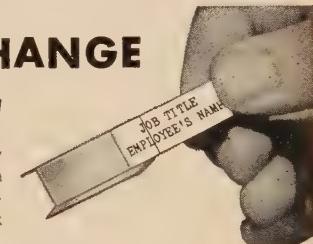
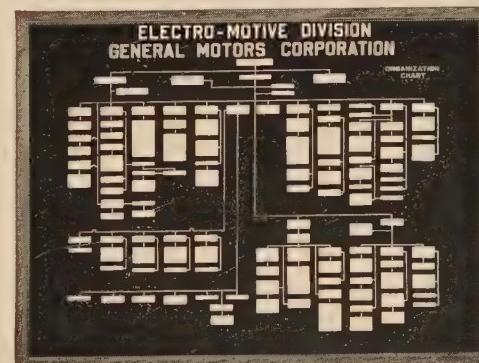
KELSO-BURNETT ELECTRIC CO.

CHICAGO 6, ILL., 223 W. Jackson Blvd., Tel. WAbash 2-9060
HOUSTON, TEX., 2302 Jefferson Street, Tel. ATwood 1551

THE CHART YOU CAN CHANGE *Without Costly Re-Drafting*



Die-Cut Plastic letters are used for Company name headings. Each letter has flanges which fit securely into the grooves of the background, which is available in Maroon, Dark Green, Black or White.



Transparent Plastic windows (available in many sizes) hold typewritten or hand-lettered cards. Movable Plastic strips form the rules. Any card may be changed or entire sections re-arranged quickly and easily.

**The
EVERLASTING
Interchangeable
ORGANIZATION
CHART**

A PARTIAL LIST OF PROMINENT USERS

United States Army
United States Navy
International Harvester Co.
General Motors Corp.
New York Life Insurance Co.
Detroit Edison Co.
Standard Oil Co. of Indiana

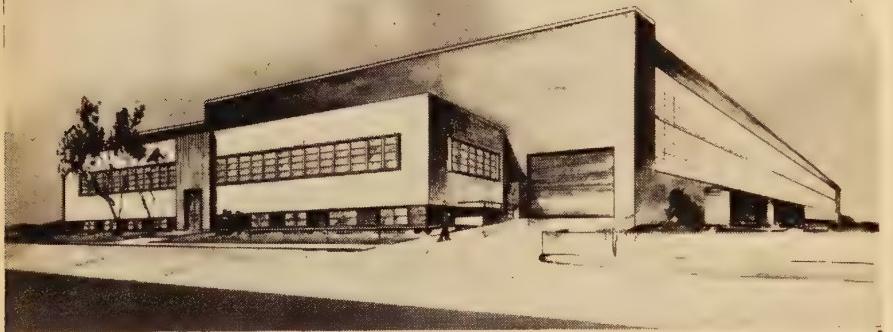
- Sizes to Fit Any Organization Structure
- Sharp Prints Are Made Directly From the Chart
- A Typewriter and Ordinary Paper Are All You Need
- Relieves Busy Draftsmen of This Costly Work
- Invaluable as a Visual Training Aid.

Send for 4-page folder illustrating typical organization structures and list of other prominent users. Write Dept. 9-C today! Or phone Michigan 2-6563.

MANAGEMENT CONTROL CHARTS CO.

1733 N. Wells St.
CHICAGO 14, ILLINOIS

**HERE'S
Bigness and Beauty
COMBINED!
right in the Heart of the
KENWOOD
MANUFACTURING DISTRICT**



- The above illustration is from an architectural rendering of a new plant of Universal Sheet and Strip Steel Company at 50th and California.
- This will be their headquarters plant including a 75,000 square foot crane-type warehouse building and 9,200 square foot office building.
- The warehouse will be equipped with the newest and latest electric cranes and steel handling equipment. The office building will have paneled walls and latest features in the executive offices.
- You too can have a new plant built to your requirements and financed on either a purchase contract or long term lease.

KENWOOD Manufacturing District is served by 2 Belt Railroads, street-cars and bus service. Has all utilities in and excellent labor supply.

J. H. VAN VLissingen & CO.

RANDOLPH 6-4042

**120 South La Salle St., Chicago 3, Illinois
PHIPPS INDUSTRIAL LAND TRUST—Owners**

ported more than 400,000 pounds of mail in a single month. Ship-to-shore shuttle service and short-haul land passenger service are two more recent jobs undertaken successfully by the copter. The craft are ideal for terminal-to-airport taxi services.

Another helicopter job is that of air police work. New York City, for example, employs several helicopters for "upstairs duty": surveying and controlling heavy automobile traffic, patrolling the harbor, etc.

For the past few years, considerable evidence has been piling up concerning the helicopter's versatility as a business and industrial tool. Thus far, however, few facts about the cost of helicopter operation have been published, and little has been said about the dollars-and-cents value of commercial helicopter services.

More Than 25 Makers

Since Igor Sikorsky first confounded skeptics of rotary flight by keeping a helicopter aloft and stationary for over an hour and a half back in 1941, more than 22 American firms have undertaken the production of the awkward-looking, but efficient "flying windmills."

Some so-called manufacturers of helicopters have done little more than block out production plans and complete several samples. Actually production for sale is somewhere in the future. Today's four biggest producers with order backlog ranging from twenty to one hundred million dollars are: the Sikorsky Division of United Aircraft Corp. at Bridgeport, Conn. (backlog: \$100 million); Piasecki Helicopter Corp. of Morton, Pa. (backlog: over \$100 million); Hiller Helicopters of San Francisco, Calif. (backlog: \$20 million); and Bell Aircraft Corp. of Buffalo, N. Y. (backlog: \$75 million).

There are about 50 U.S. helicopter service firms, scattered throughout 15 states from New York to California. These firms will handle a variety of industrial air jobs, from pest control to passenger service.

There are no standard cost figures available that will have universal application, since each job is different. However, when Standard Oil of Ohio contracted with an explora-

(Continued on page 47)



INDUSTRIAL DEVELOPMENTS IN THE CHICAGO AREA

VESTMENTS in industrial development in the Chicago Industrial Area during August totaled \$18,143,000 compared with \$61,80,000 during August, 1950. Total investments for the first eight months of 1951 amounted to \$251,89,000 compared with \$251,406,000 for the same period in 1950. These developments included expenditures for the construction of new plants, additions to existing industrial buildings, and the acquisition of land or buildings for industrial purposes.

Electro-Motive Division of General Motors Corporation, McCook, is expanding the floor space of its plant.

American Steel Foundries, Inc., 100 N. Michigan avenue, is rehabilitating the armour plate plant adjacent to its East Chicago plant which it operated during World War II. The structure contains 1,400,000 square feet and will be used to produce cast armour, turrets and hulls for the Ordnance Department.

Standard Railway Equipment Company, Columbia avenue, Hammond, manufacturer of patented railroad equipment, will add three factory buildings to its plant. Campbell Lowrie Lautermilch Corporation, contractors.

Budd Company, Philadelphia, is constructing an addition to its Gary plant. S. N. Nielson Construction Company, general contractor.

L. A. Young Spring and Wire Company, 6850 West 66th Place, is constructing a second plant in the Chicago area at 4900 W. 71st street. The new structure, which will contain 109,000 square feet, is being built by the Clearing Industrial District.

Inland Steel Company is constructing an administration build-

ing at its mill site in East Chicago. The structure will be three stories high and contain approximately 50,000 square feet of floor area. Ralph E. Stotzel, architect.

Buick Motor Division of General Motors Corporation is constructing a warehouse at Crawford avenue and 40th street, in the Central Manufacturing District. A. Epstein and Sons, architect; Fallon-O'Donovan and Rassas, general contractors.

Phoenix Trimming Company, 2800 N. Racine avenue, makers of drapery and upholstery trimmings, welting and rugs, will construct an addition to its plant. Ragnar Benson, Inc., general contractor.

Illinois Brick Company, 228 N. LaSalle street, operator of brick factories in the Chicago area, is constructing an addition to its Blue Island plant at the corner of 123rd and California avenue.

Motorola, Inc., has purchased 150,000 square feet of property at the southwest corner of Division street and Kolmar avenue.

Northern Indiana Dock Company, 3601 E. Canal street, East Chicago, Ind., is constructing a metal baling plant.

Republic Flow Meters Company, 2240 W. Diversey avenue, is making some additions to its plant. Fugard-Burt-Wilkinson and Orth, architects.

Western Felt Works, 4115 W. Ogden avenue, is constructing a two-story addition to its plant. Robert Nerem, architect; William Scown, general contractor.

Production Instrument Company, 710 E. Jackson boulevard, has purchased a two-acre site in Mt. Prospect on which it will build a factory.

Western Electric Company has acquired the government-owned cartridge brass plant at Fullerton ave-



INDUSTRIAL
Contractors and
Distributors

JOHNS-MANVILLE
HEAT INSULATION
COLD STORAGE
INSULATION
ESTIMATES AND
ENGINEERING SERVICE
WITHOUT OBLIGATION

Asbestos & Magnesia Materials Co.
119-127 N. Peoria HAYmarket 1-5202

FOR SALE

NORTHERN WISCONSIN
GENTLEMEN'S ESTATES, SUMMER
HOMES, RECREATIONAL PROPERTIES,
SHORE LINE.
WRITE E. O. EGGERT
HAYWARD, WIS.

BATTEY & CHILDS

ENGINEERS - ARCHITECTS
Complete Service for Industry

231 So. LaSalle St., Chicago 4, Illinois



WHEEL CHAIRS

Surgical—Hospital
First Aid Supplies

V. MUELLER & CO.
Phone SEEley 3-2180
320-330 So. Honore St.
CHICAGO 12

HEAT TREATING

FRED SNOW STEEL TREATING CO.

1954 W. Kinzie St.
Chicago, 22 Tel. SEEley 3-2662

| | |
|--------------------------------------|-----------------|
| Industrial | Institutional |
| GENERAL CONTRACTORS | |
| Additions, Remodeling, Alterations | |
| E. L. Archibald Co. Est. 1916 | |
| 79 W. Monroe St. | FRanklin 2-0274 |
| 24 Hr. Telephone Service | |
| Residential | Commercial |

ORGANIZATIONAL PLANNING
Executive and Sales Personnel
Counseling and Testing
Leroy N. Vernon, Ph.D.
Industrial Psychologist
THE PERSONNEL LABORATORY
La Salle-Wacker Bldg. • Chicago

Mention
COMMERCE Magazine
when writing advertisers

A. J. BOYNTON AND COMPANY

ENGINEERS AND TECHNICAL
COUNSELORS

*A Competent
Engineering
Organization*

*Committed to Rendering
Accurate and Efficient
Technical Service*

ECONOMICS OF PRODUCTION
PLANT LAYOUT & DESIGN
BUILDINGS, STRUCTURES
AND EQUIPMENT
COST ESTIMATION
CONSTRUCTION
OPERATION
PRODUCT DESIGN
ENGINEERING SERVICE
ELECTRICAL, MECHANICAL,
STRUCTURAL, METALLURGICAL

109 N. WABASH AVE.
CHICAGO 2, ILL.

CE ntral 6-8442

SEELEY 3-2765

THE HAINES COMPANY CONTRACTORS

FOR

VENTILATION & AIR CONDITIONING
DUST & FUME REMOVAL SYSTEMS
MATERIAL CONVEYING
SHEET METAL FABRICATORS
WELDING

1931 W. LAKE ST. • CHICAGO 12

Screw Machine PRODUCTS

Brown & Sharpe Equipment
Automatic Capacity to 1½ inches
Hand Machine Capacity to 2½ inches
"ALL SECONDARY OPERATIONS"

SPaulding 2-5800

Dependable Service Since 1920

NICOUD
MFG. CO.

1900 N. Kilbourn Ave. Chicago 39, Ill.

nue and Normandy. It will produce certain fire control items needed in some of the developments in missiles for the U. S. Air Force.

Phoenix Dye Works, 2655 N. Elston avenue, is building a 30,000 square foot, one-story addition to its plant.

Howell Company, manufacturer of steel furniture in St. Charles, has added a unit to its plant.

Ideal Instruments and Manufacturing Company, 3244 S. Canal street, has purchased the building at 607 N. Western avenue.

Superior Power Tools, Inc., a newly organized company, is completing construction of a 5,000 square foot factory in Chicago Heights.

Phillips Control Corporation, now operating two plants in Joliet, has completed arrangements for the establishment of another plant in Lockport.

Dudeck and Bock Spring Manufacturing Company, 2100 W. Fulton street, is constructing a 10,000 square foot addition to its plant.

Mallard Manufacturing Company, 6036 N. Keystone avenue, manufacturer of coils, is adding 8,000 square feet of floor space to its plant.

Mager Machine Company, Elmhurst, Ill., is constructing a new building in Hillside.

Superior Plastics Company, 410 N. Oakley, is constructing an addition to its plant.

Wire Cloth Products, Inc., Forest Park, will move into a newly constructed building in Bellwood.

Richheimer Coffee Company, 1127 N. Halsted street, will add approximately 16,000 square feet

of floor space to its plant. Friedman, Alschuler and Sincere, architects.

Oakley Steel Products Company, 332 N. Oakley, is having a plan built at 650 S. 28th avenue, Bellwood. J. T. Fortin, architect.

Brookshore Company, 209 Wells street, is constructing printing plant in Northbrook. Moore Construction Company, general contractor.

Boris Smoler and Sons, Inc., will expand its plant at 3021 N. Pulaski road. A. Epstein and Sons, Inc., architect.

Abar, Inc., manufacturer of testing equipment at 2652 W. Lake street, is constructing a plant at Hartrey street in Evanston. Baranick Conte and Associates, architect.

Littelfuse, Inc., 4757 N. Ravenswood avenue, has started construction of a 35,000 square foot factory in Des Plaines. Chell and Anderson, General Contractor.

Weil-McLain Company, 641 W. Lake street, is constructing an addition to its warehouse at 851 165th street, Hammond, Ind. The company makes heating and plumbing equipment. James Turner and Son, architect.

"Z" Products, Inc., 4011 N. Bernard street, has acquired 35,000 square feet of land on Hartrey avenue, Evanston, on which it will construct an 85,000 square foot plant.

M. M. Young and Company, 823 S. Princeton avenue, is constructing a 45,000 square foot building.

Rosman Iron Works, Inc., 34 N. Francisco avenue, is constructing a 10,000 square foot plant in Franklin Park.

Behold The Plastic Films

(Continued from page 20)

Polyethylene coincided, fortunately, with Hitler's invasion of Poland. As Sir Robert Watson-Watt, the British radar pioneer, recalls, "The availability of this plastic material transformed the design, production, installation, and maintenance problems of airborne radar from the almost insoluble to the comfortably manageable." The Battle of Britain ended successfully, largely because of superior radar on the side of the English.

The composition and molecular

arrangement of polyethylene resembles paraffin wax, a kinship that is evidenced in its waxy feel. When heated, most plastics become soft and tacky, but polyethylene melts like wax. As a film, it has remarkable tear and puncture strength. Its disaffinity to water is unparalleled, as are its resistance to corrosive agents and its high transmission rating for carbon dioxide, oxygen and other gases.

Lubricants, glues, food products

nd other damp or moist materials which would decompose fiber drums corrode metal containers are being shipped in both by simply placing them in polyethylene bags which are then set into the container. Veal carcasses weighing 50 to 60 pounds offer still another example of how the unique properties of this film are put to practical use. Wrapped in polyethylene, the meat shrinks less, has greater sales appeal, and retains its "bloom" longer. Other uses include splicing tape, shower curtains, rainwear, wall and ceiling insulation, television lead-in wires, and valve diaphragms in chemical works.

Widely Varying Properties

Polyethylene, cellulose acetate, and other plastic films provide two-way passage for carbon dioxide and oxygen; rubber hydrochloride is more limited. It allows the passage of carbon dioxide but sternly refuses to permit oxygen to enter. This is of no value to tomato packers but has been a boon to coffee manufacturers. This film is moisture-proof and liquid-tight and offers an excellent means for protecting from corrosion metal parts, ranging from washers to complete aircraft engines. Known more widely by one of its trade names, Pliofilm, rubber hydrochloride is fashioned into garment bags, make-up caps, rainwear, flexible containers for liquid foods, and many more.

The scope of the plastics film subject is tremendously broad. Added to these types are styrene films which give a metallic sound when flexed and are used, when available, in place of mica; teflon which retains its flexibility at temperatures down to -94° F.; pecanate film made from fruit wastes and perfectly edible; polymono-chlorotrifluoroethylene whose chemical inertness and temperature range are as remarkable as its name; vinyl carbazole with outstanding electrical properties; nylon, casein, rubber chloride, cellulose acetobutyrate—the list of plastic film goes on and on.

And, very possibly, science has only scratched the surface. How many more will yet emerge from the research laboratory only time will tell.

GEORGE M. LORENZ STEEL CO.

MILL & WAREHOUSE DELIVERIES SHEET STEEL

COLD ROLLED STRIP IN CUT LENGTHS & COILS

| | |
|----------------------|--------------------|
| HOT ROLLED STRIP | HOT ROLLED PICKLED |
| H.R. PICKLED STRIP | AUTO BODY |
| WELDED TUBING | ROUND EDGING |
| TIN PLATE | GALVANIZED SHEETS |
| TIN MILL BLACK PLATE | BLACK & GALVANIZED |
| HOT ROLLED ANNEALED | PIPE & TUBING |

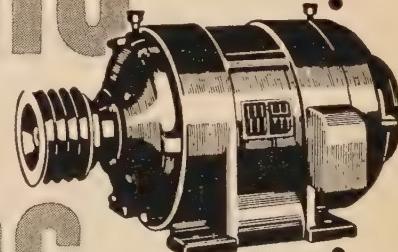
WE SHEAR OR SLIT TO EXACT SIZE OR BLANK

HA ymarket I-0461

2400 W. MADISON STREET

MOTORS

OF ALL TYPES
AND SIZES



ALL WORK
GUARANTEED

REPAIRS

STATOR AND ARMATURE WINDING
NEW AND RECONDITIONED

ALL PHONES: ARMITAGE 6-8300

SIEVERT ELECTRIC CO.
INC.
Since 1844

ELECTRICAL-MECHANICAL
EQUIPMENT & SERVICE
FOR ALL INDUSTRIES

1333-51 BAUWANS STREET • CHICAGO 22, ILL.

More Business And More Jobs for Chicagoans

Some four and one-half million tourists and vacationists spend more than a quarter of a billion dollars in Chicago each year. The result is more business and more jobs for Chicagoans.

A potent factor in attracting this added business to Chicago is the Visitors' Bureau of the Chicago Association of Commerce and Industry, which carries on throughout the year a nation-wide program to publicize Chicago's numerous attractions. This program includes:

- Publication and distribution of "Headline Events," a monthly listing of Chicago entertainments which this year will have a circulation of approximately 700,000 copies.
- Organization of group visits to Chicago for students and social organizations. These groups range in size from a dozen to several thousand persons.
- Special promotions such as the annual PARADE OF STARS, in which the Association capitalizes upon Chicago's great outdoor entertainment program in August.
- Distribution of pictorial pamphlets, informational folders and maps showing places of interest to visitors.
- A constant flow of stories and pictures individually prepared for consumer magazines, trade papers, house organs and convention bulletins.
- Replying to nearly 2,000 individual inquiries a month from persons who want to know what to do, what to see and where to stay in Chicago.

The money visitors spend helps importantly to make Chicago prosperous. If you are not an Association member, join now and add your dues and your support to this year-round effort to attract visitors to Chicago. As a member, you will also help in a variety of other ways to improve Chicago as a place in which to live and carry on business and you will benefit from the many direct services which the Association performs for its members.

Write or telephone Association headquarters today and ask how you may become a member.

THE CHICAGO ASSOCIATION OF COMMERCE
AND INDUSTRY

One North LaSalle Street

FRanklin 2-7700

TRANSPORTATION and TRAFFIC

☆

THE Interstate Commerce Commission has authorized an increase in railroad freight rates which it estimates will yield the carriers approximately \$548,000,000 additional revenue annually. In a report and order in Ex Parte No. 175, "Increased Freight Rates, 1951," the commission approved a nine per cent increase within eastern territory and a six per cent increase within southern and western territories and on all interterritorial traffic. The rate boost will be applied as a surcharge to be added to total freight charges, exclusive of the three per cent transportation tax, and will supersede the interim increase in freight rates which became effective April 4, 1951. This interim increase was four per cent within eastern territory and two per cent within southern and western territories and on all interterritorial traffic. The order prescribes maximum or specific increases on certain commodities as follows: Fresh fruits, vegetables, melons and canned goods—maximum six cents per 100 pounds; sugar, lumber and articles taking lumber rates—maximum four cents per 100 pounds; iron ore, grain and grain products—six per cent from, to and within all territories; anthracite and bituminous coal—six per cent from, to and within all territories subject to a maximum of 20 cents per net ton or 22 cents per gross ton; lignite coal or coal briquets—three per cent subject to a maximum of 10 cents per net ton or 11 cents per gross ton; phosphate rock—maximum 20 cents per net ton or 22 cents per gross ton; potash—maximum 50 cents per net ton or 56 cents per gross ton. The increase will become effective August 28 on 15 days notice and will expire February 28, 1953 unless modified or

terminated. The order authorizes water carriers and freight forwarders who are parties to the proceedings to apply similar advances in their freight charges simultaneously with the rail rate increase.

Eastern Railroads' Tariff of Pick-Up and Delivery Charges Filed: Eastern railroads have filed with the Interstate Commerce Commission a tariff of new rules, charges and allowances for pick-up and delivery service on less-than-carload and any-quantity freight. The tariff will become effective September 10 unless suspended by the commission. On intraterritorial traffic in official territory the present minimum rate of 75 cents for free pick-up and delivery service will be cancelled and in lieu thereof minimum rates based generally on the class rate applicable for a 300 mile movement will be applied. These higher minimum rates will alternate with present rates plus specific charges for pick-up and delivery service ranging from 10 to 35 cents per 100 pounds. On traffic moving interterritorially between points in official territory and points in other territories, the pick-up and delivery service in official territory will be accorded only at the published charges applicable at the point where the service is performed. In a statement in justification of the proposal, filed with the commission contemporaneously with the tariff, John J. Fitzpatrick, agent for the eastern railroads, said: "The proposal is a conservative effort to apply pick-up and delivery charges approximating the cost of pick-up and delivery service on the portion of the traffic which now produces inadequate revenues to justify performance of this service at the present rates." Mr. Fitzpatrick's statement concludes by urging the commission to permit the tariff to

WABASH PROGRESS

*Gives You
Luxury Travel*

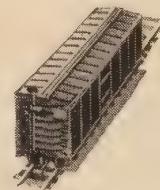


\$3,744,272 invested in new passenger trains and equipment.

*Gives Your
Shipments
Superior Service*



\$32,556,646 invested in new diesel engines to carry longer trains...faster.



\$19,928,565 invested in new cars...box cars...flats...hoppers...special cars...added to thousands of others in tip-top condition.



\$11,535,293 invested to improve tracks and yards for swifter, smoother service over America's vital transportation link.

It all adds up to \$67,764,776 invested during just the past 5 years. These Wabash dollars spell "progress"...are proof that we're doing everything possible to give you and your products better transportation than ever before.



WABASH RAILROAD
MODERN SERVICE IN THE HEART OF AMERICA

become effective stating: "There is no need for extensive new investigations, hearings, briefs, proposed reports, exceptions, etc., to apprise the commission of the facts regarding L. C. L. traffic and rate structure in this territory. The proponent carriers request that this proposal now be considered in the light of the commission's own expert knowledge of the multitude of facts which may be judicially noticed, and of the evidence submitted as part of this document. This proposal represents the considered judgment of the proponents' traffic officers as the adjustment in the Eastern L. C. L. rate structure which most appropriately meets the present necessities."

Senate Committee Favors Reduction in Size and Weight of Parcel Post: The Senate Post Office and Civil Service Committee has voted to favorably report proposed legislation to reduce the size and weight limits of parcel post packages and to increase postal rates on first, second, third and fourth class mail. The committee recommends that the limit of size on parcel post packages be reduced from 100 to 72 inches in length and girth combined and that the present 70-pound weight limit be reduced to 40 pounds in the first and second zones and to 30 pounds in all other zones. Exceptions would be packages mailed from or to any third or fourth class post office or any rural or star route. It is the general opinion that if the increases in fourth class (parcel post)

rates recommended by the Senate Committee are passed by Congress and signed by the President prior to October 1, they will forestall the increases authorized by the Interstate Commerce Commission in Docket No. 30690, which are scheduled to become effective on that date. However, if Congress does not act on the matter before October 1, the scale of fourth class rates authorized by the commission will undoubtedly become effective as scheduled.

Senate Passes Freight Absorption Bill: The Senate, on August 2, by a vote of 42 to 34, passed S. 719, the so-called freight absorption bill. The measure now awaits action in the House. The bill will permit a seller to absorb freight charges when done in good faith to meet the price of a competitor. The Senate Small Business Committee, in its summary of argument in support of the bill, stated: "S. 719, by permitting businessmen to absorb freight, would benefit small sellers and enable them to compete in distant markets. The bill would thus relieve small sellers of the need to relocate present facilities and to build expensive branch plants in outlying areas."

Railroads Ordered to File New Freight Classification: By a supplemental report on further consideration in Docket No. 28310, Consolidated Freight Classification, the Interstate Commerce Commission ordered the railroads to file within four months a new and uniform classification of freight. In its third

supplemental report on further hearing in Docket No. 28300, Class Rate Investigation, 1939, released at the same time, the commission found, but it did not now prescribe, as just and reasonable a scale of rates, graduated with distance up to 3,000 miles, for application within the territory roughly described as east of the Rocky Mountains, for use in connection with the new classification when in effect. This scale is more than 60 per cent higher than the scale originally prescribed in the first decision of the commission in 1945. These proceedings were instituted by the commission on its own motion in 1939 and have been strongly litigated before the commission and in the federal courts because of their effect on commercial and sectional interests. The original decision of the commission in 1945 was made in the two cases combined. This decision found that the existing freight classifications and the applicable class rates, then widely differing in the eastern, southern, and western territories, caused unjust discrimination forbidden by the Interstate Commerce Act, which should be cured by applying to a new nation-wide uniform classification a uniform class rate scale within the official, southern, western trunk-line, and southwestern rate territories. Rates in the Mountain-Pacific group and on transcontinental traffic were not in the class rate case, but now are under investigation. The commission in its 1945 decision made an interim adjustment to alleviate the discriminations by increasing class rates in official territory 10 per cent, and reducing them in southern, and western-trunk line and southwestern territory by the same percentage. Following unsuccessful attack of this adjustment in the courts, with the Supreme Court finally holding that the commission's findings as to unjust discrimination were "abundantly sustained", the interim adjustment went into effect August 22, 1947. The railroads set up a committee to formulate the new classification and numerous hearings have been held. Southern carriers, with some support from the eastern lines, took the position that a scale must be

INDUSTRIAL FINANCING

Well-established manufacturers will find it advantageous to obtain financing by long term mortgage or by Sale-lease plan. Let us help you.

Here are a few types of businesses we have aided with Industrial Financing directly or through their banks

PRINTERS
RETAIL STORES
ELECTRICAL GOODS
LIGHT MANUFACTURERS

TOYS
CANDY
PERFUME
DAIRY PRODUCTS

BAIRD & WARNER
215 No. Dearborn St. Central 1855

prescribed before a classification could be made. The commission then proposed a new scale about 50 per cent higher than that originally prescribed in 1945. The scale found reasonable in the report just issued follows the southern railroads' proposal, extended to 3,000 miles. The commission is expecting that the classification and scale shall go into effect simultaneously, but they will be subject to possible suspension for investigation of portions thereof.

Up With the Helicopters

(Continued from page 40)

tion company for certain subterranean oil data in the Louisiana marshes cost was \$75 per flying hour. With 80 hours a month guaranteed, the monthly expense ran to \$6,000 (this was in 1949—it is much less today). Costs for the geophysical crew were approximately \$9,000 a month. The total cost was \$15,000 per month.

According to Humble Oil, the helicopter enables seismograph crews to handle 33 to 50 percent more tests than formerly. Said a Humble Oil executive recently: "A practical solution to many problems, the helicopter has literally lifted our crews out of the clinging mud of the marshes. It has revolutionized their methods of operation."

In the Alaskan mapping operation, the cost was \$30,000 — \$30 a mile for 1,000 miles. When ground crews mapped a similar area the season before the cost was \$34 per mile. Here, too, the helicopter proved to be cheaper, safer, faster, and more effective. Another asset over more conventional aircraft is its ability to do a job in virtually all kinds of weather.

Expensive weed control operations in California also demonstrated the helicopter's feasibility on a cost as well as an efficiency basis. Plant spray applications by ground rig operators cost \$6 per acre. Dusting by regular aircraft can be done for \$1.50 an acre. Helicopters can compete with them at the lower rate. Said one operator: "The growers are satisfied that our work is more accurate, more precise, and more effective!"

Clarence Belinn, president of Los

Angeles Airways, Inc., gave a pretty good idea of the relation of helicopter costs to company profits when he reported that his firm could make money hauling passengers from the city to suburban airports for a fee as low as 25c a mile per passenger. The average passenger cost, said Belinn, ran to approximately \$2.50 each, as compared with \$1.40 by limousine and \$3 by taxicab.

The cost of buying a helicopter has also come down in the past few

years, and it is now possible to buy a machine for well under \$10,000. The new Hiller Hornet, for example, a two-place, 356-pound, twin-engine ram-jet job, has been designed to sell for under \$5,000. Its fuel cost per hour is only \$5, and it has a flying range of 50 miles.

Unquestionably, the helicopter has come of age. The next few years should see its widespread use in many new fields. But in none will it be more valuable than in business and industry.

HOTEL MORRISON
No group too small, no convention too large.

YOUR CONVENTION HOTEL

FEATURES

- WORLD FAMOUS TERRACE CASINO
- BEAUTIFUL MURAL ROOM
- LUXURIOUS SKYLINE PENTHOUSE
- COMFORTABLE HOLLYWOOD ROOM

WILLARD M. RUTZEN, M.S.

TERRACE CASINO . . . "nothing like it anywhere" . . . every chair a ringside seat for meetings, banquets, luncheons, stage shows. Private entrance, foyers, check rooms, (Monte Carlo bar adjoining if requested).

MURAL ROOM . . . beautiful, and spacious but made private with sound-deadening drapes. Magnificent, complete, for large groups, meetings, banquets.

SKYLINE PENTHOUSE . . . a complete and luxurious home-within-a-home, 1/10 of a mile above Loop streets. A dramatic setting for that "special" business or private gathering.

Hotel Morrison guests enjoy virtually a city-within-a-city . . . The time-honored Boston Oyster House (and other restaurants), three fine cocktail lounges, shops to meet every need and convenience.

CLARK and MADISON • CHICAGO

Cadillac Glass COMPANY

900 W. CERMAK RD.

MONROE 6-9800

Everything In...
GLASS
FOR PLANT • OFFICE • & PRODUCT
Improvement

INDUSTRIAL GLAZING

•
GLASS REPLACEMENT SERVICE

•
SCIENTIFIC DAYLIGHTING EXPERTS

•
TECHNICAL INFORMATION SERVICE

PLATE GLASS • WINDOW GLASS • GLASS BLOCK • TUFFLEX GLASS • MIRRORS • GLAZING
ROLLED & FIGURED GLASS • THERMOPANE • VITROLITE • SAFETY GLASS • WIRE GLASS

DISTRIBUTORS • Libbey • Owens • Ford • QUALITY PRODUCTS

CHICAGO Electric

Has outstanding repair and rebuilding facilities for

POWER EQUIPMENT

COMPLETE STOCKS OF UNITS OF EVERY SIZE AND DESCRIPTION — REBUILT OR NEW

REBUILDERS OF . . . AC and DC Motors, Generators, M.G. Sets, Transformers, Controls, Compressors, Pumps and Hoists.



CHICAGO Electric Co.

1318 W. CERMAK RD.
CHICAGO 8, ILL.

Stocking Distributors Of . . .

Allis Chalmers Electric Motors and Controls . . . Budgit Electric and Chain Hoists . . . Loadlifter Electric Hoists . . . Shaw-Box Cranes . . . Worthington Compressors, Pumps and Drives . . . Rockwood Pulleys and Bases . . . Allis Chalmers V-Drives . . . Falk Flexible Couplings and Allis Chalmers Transformers

Write Today for full information or
Phone: CANal 6-2900

TIN PLATE
—
TERNE PLATE
—
BLACK PLATE

Sheet
Strips
Circles
Scrap

NEvada 8-4100

LOU STEEL PRODUCTS

COMPANY

923 S. KOSTNER AVE., CHICAGO 24, ILL.

Manufacturers of

**Rods, Wire and
Extruded Shapes in
Brass, Nickel Silver and
Architectural Bronze**

**CHICAGO EXTRUDED
METALS COMPANY**

1602-1642 South 54th Ave.

Cicero 50, Ill.

Tel. Bishop 2-2120

New Products

Mass Mailing Machine

Large volume mailing has been reduced to an assembly-line operation with a versatile new machine developed by Volks Machines, Inc., 70 Wall Street, New York. Called "En-Mail," the 12½ by 2½ foot mechanism begins with envelope paper and thereafter automatically die-cuts the paper to the envelope shape, imprints postal markings and other desired printing, applies the flap adhesive, folds and seals the mailing piece, and finally turns out packets of the mailing pieces in the desired number ready for mailing. Different types of feeders handle flat pieces and envelope enclosures. The machine, which sells for around \$20,000 or can be rented at \$650 a month, handles 50 to 100 mailing pieces a minute.

Smokes On The House

There's always a new way to say "Merry Christmas" and this year, Your Name Cigarettes, a Chicago firm, believes it has devised the latest twist. It is producing personalized cigarettes in colorful Christmas packages that also carry the best wishes (and advertising, if desired) of companies which want to send "their own" cigarettes to customers and friends at Yuletide. The cigarettes are made by a manufacturer of private brand hotel and club cigarettes. Your Name Cigarettes is at 125 W. Hubbard Street, Chicago 10.

Christmas Tree Shade

Another firm with Yuletide already in mind is H. Grabell and Sons, Inc., 1128 Madison Ave., Paterson, N. J., which has come up with a unique Christmas tree lamp shade which is 16 inches high, replaces a regular shade for the Christmas season, and has projecting twigs and branches on which tree ornaments can be hung. The shade sells for under a dollar.

Convenient Outlet

A three-way electrical outlet which requires no stripping or slitting of wire has been placed on the market by Academy Electrical Products Corp., 3842 Ninth Ave., New York. Designed as a table

tap or wall mounting, the outlet is made of durable plastic. It makes the electrical contact automatically with sharp metal points that pierce the insulation when the outlet is snapped shut.

"Squeeze" Riveting

Manco Manufacturing Company, Bradley, Ill., has developed a unit, called the "Guillotine Riveteer," which utilizes a "squeezing" action rather than the customary hammering of the rivet head. The portable unit delivers a 60,000-pound thrust through the hydraulic ram and drives 5/8-inch cold rivets. The riveting cycle takes only 2½ seconds and no adjustment is needed for different length rivets. Manco says the new unit is "relatively quiet in operation."

Anti-Scale Treatment

A water conditioner that electrically charges salt impurities to prevent them from accumulating as pipe and boiler scale has been introduced by Aqua Electric Scale Control, Inc., 2028 E. Twenty-Second Street, Cleveland, Ohio. Connected in series with a water line, the conditioner comes in six sizes from one-half to four inches.

Long-Life Cutter

Gorham Tool Company, 14400 Woodrow Wilson Ave., Detroit, Mich., has developed a long-lasting cutting tool with an alloy core said to take hundreds of clean-up grinds. The alloy core is made of a material, called M-40-U, which, Gorham says, will last up to ten times longer, without dressing, than the cutting steel conventionally used in cores.

New Undercoating

An improved automobile undercoating incorporating a chemical, called NR 508, that makes the protective coating adhere more closely to metal, has been introduced by Nox-Rust Chemical Corporation, 2429 S. Halsted St., Chicago. The undercoating is called "Fendix with NR 508" and, according to Nox-Rust, it clings more tightly than ever, creating a continuous rust-proof seal that pre-



CONCRETE barrel shell roofs are ideal for buildings requiring large interior areas free from obstructions. This type of construction offers these distinct advantages:

- ① Long spans—up to 300 feet and more—with-out supporting columns.
- ② Maximum usable floor space.
- ③ Adaptability to a variety of plan requirements.
- ④ Unusual economy in large structures.
- ⑤ Firesafety, low insurance and long life.

This design was chosen for the New York City Fire Department's new repair shops (shown above) in Long Island City, N.Y. The central interior portion of the building has an unobstructed area, 121 x 490 feet, with 35-ft. clearance from floor to crown of roof. Side walls are 12 ft. high at the springing line.

Along both sides of the structure are two full-length lean-to's, spanned by 39-ft. concrete barrel shell roofs. These lean-to's provide space for woodworking, foundry, upholstery and other shops. At the ends of the building, two-story conventional beam and slab type sections for office and storage space complete the structure that was designed by the Bureau of Architecture, New York City Department of Public Works, and erected by Corbetta Construction Co. Roberts and Schaefer Co., Chicago, were the engineers.

The exterior rib construction makes possible a smooth interior ceiling. At the crown the roof is only 3½-in. thick.

Wherever large, column-free floor areas are essential—such as in train sheds, railroad repair shops, warehouses, auditoriums, airplane hangars, sports arenas and gymnasiums, produce markets, big garages and monumental buildings—concrete barrel shell roofs are the economical answer.

PORLAND CEMENT ASSOCIATION

33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete... through scientific research and engineering field work

vents moisture from penetrating and attacking the car underbody. A thickness of only one-sixteenth of an inch is said to be enough for complete protection.

Inexpensive Dictation

A new dictation machine that is said to resemble more expensive

models in all essentials, yet costs only one-third as much has been introduced by Webster-Chicago Corp., 5610 Bloomingdale Ave., Chicago 39. One feature of the new machine is a foot control useful to those who must handle specimens or otherwise have their hands occupied while dictating.

Trends In Finance and Business

(Continued from page 10)

and found that only one in four actually looks forward to a life of leisure after retirement. Three out of four want to keep on working at present jobs or at least to "do something useful" after 65.

Of the total group surveyed, 24 per cent want a life of ease when they reach retirement age, 39 per cent want to be financially able to reduce their working hours or shift into a lighter occupation, and 37 per cent want to stay on their jobs. Many of those surveyed by the insurance company said they plan part-time money-making activities for their retirement years. The most popular objective is small-scale farming followed by the operation of some small business enterprise. Most frequently mentioned small enterprise: operating a tourist cabin business.

Three out of five men plan to travel when they retire; four out of five of these future travelers

want to do their sightseeing in the United States and one out of five hopes to do some foreign traveling.

" " "

Long-Term Savings Continue Upward Trend The average American family could tell its breadwinner to quit work tomorrow and thereafter live off accumulated savings for almost a year without anyone doing another lick of work.

A good many people who just manage to make it from payday to payday may doubt this statement, but the Institute of Life Insurance has a collection of fat figures to prove that accumulated savings of individuals in the United States has now reached the point where they are almost the equivalent of total consumer expenditures for a 12-month period.

Long-term individual savings—meaning savings bonds, savings de-

posits, net value of life insurance and the like—have been increasing steadily since the mid-thirties. Last year they amounted to \$175.11 billions as compared to total consumer expenditures of \$193.6. This is equal to a \$4,000 nest egg for every one of the nation's 44 million families, and is close to two and one-half times the comparable per family figure of about \$1,700 a decade ago.

Actually, the growth in savings has run far ahead of the rise in prices in the last three decades, the savings increase amounting to nearly 250 per cent for the period as a whole, and 38 per cent for the last decade alone. Last year, individuals in this country had saved a total of 91 cents for every dollar they spent. The biggest ratio of accumulated savings to consumer expenditures on record was in 1945 when savings amounted to 110 per cent of expenditures.

Colleges Face Famine

(Continued from page 14)

providing funds for many research projects, and gift income has increased. The university's budget for the fall quarter was based on a 10 per cent decline, and tuition was raised in accordance.

Registrar Ernest C. Miller is bright and optimistic when speaking of the future. "We plan no faculty reductions and expect college enrollment to increase next year," he declares. "We are the only institution except Shimer College (which has adopted our system) to admit students at the end of two years of high school. In the period of the draft, this is a big advantage; a student coming in here after two years of high school can complete his college education by the time he is 18½. He doesn't have to pick up in the middle when he finishes with his service."

Miller, like many another city university administrator, is concerned over the high living costs that confront students who attend metropolitan schools. "The estimate is that college costs 100 per cent more than it did in 1939-40," Miller declares. "We estimate costs for the average students at \$1,350 a year, exclusive of travel, clothes, and recreation."

The University of Chicago has

SHEETS • STEEL • PLATES

Hot Rolled • Pickled • Cold Rolled

STRIP • BARS • BAND STEEL

SHEARED TO SIZE

We have PICKLING and Oiling facilities

BRIGGS & TURIVAS, INC.

Blue Island Telephone—Blue Island 2700

139th and S. Western Ave.

Blue Island, Ill.

CHICAGO Telephone—Commodore 4-1420

been exceptionally successful in winning financial support from business, not only for university activities of direct interest to business; but also for basic research and for the general work of the university. Industry is contributing heavily to the university's new Institute of Nuclear Studies, the Institute of Metals, and the Institute of Radiobiology and Biophysics, all being outgrowths of work done in the development of the atomic bomb. Business firms are also helping to finance research on disease in the university's medical center.

Enough Engineers?

Dr. Henry T. Heald, president of the Illinois Institute of Technology, is not worried so much about inflation as the fact that many youngsters are shying away from engineering as their profession. The reason: a widespread feeling that engineering is fast becoming overcrowded. As a result, engineering school enrollments have been dropping faster than in other schools.

The fact is, says Dr. Heald, that the demand for personnel in the scientific and engineering fields is great and will continue so for years to come. He adds that although 30,000 new engineers are needed each year, last year's freshman class will produce only about 12,000 graduates. Meanwhile, the demand for trained personnel is rising.

Enrollment at Illinois Tech is expected to drop about 10 per cent this fall. The school's staff is being kept virtually intact, although some vacancies are not being filled. Actually, the school is looking for additional engineering teachers, and is meeting stiff competition from industry. Tuition is being increased \$50 a year, the first such increase in three years. Even with this increase the tuition fee still falls considerably short of covering the cost of educating a student, and must be supplemented with endowments and gifts.

One Chicago university that apparently is benefiting from the rising cost of education is the Chicago branch of the University of Illinois at Navy Pier, which already has nine per cent more applications than at the same time last year and thus expects no drop

in enrollment. Tuition at the branch school is only \$40 per semester, and with other fees the total cost is only about \$150 a year. Most students live at home, and many carry their lunch.

The University of Illinois branch was established as an emergency measure after World War II to handle the huge increase in enrollments resulting from the G. I. Bill. The student body reached a peak of 4,600 in 1947, but dropped last fall to 3,400 and in the spring term

to 3,100. This is a lusty figure, nevertheless, when it is considered that, except for the three-year pre-medical course, all curricula are for two years. Courses are offered in liberal arts, commerce, engineering, and physical education.

Although squeezed by the aftermath of a great depression and presentday inflation, Chicago's private educational institutions continue to move forward. DePaul, for example, has added 34 doctors of philosophy to its faculty during the



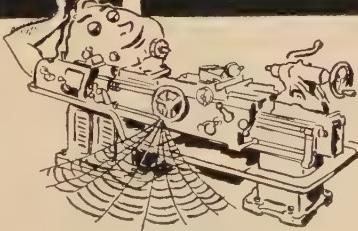
MOORE, CASE, LYMAN & HUBBARD
175 W. JACKSON BLVD.
PHONE WA. 2-0400

Has your FIRE Insurance been
TRIPLE-CHECKED?

Property descriptions, special clauses and assignments in your fire insurance policies must be checked with care. Adequacy to meet replacement costs and coinsurance provisions should be reviewed periodically. It is important to be certain that the coverage is written in financially strong companies, such as those represented by MOORE, CASE, LYMAN & HUBBARD.

CHICAGO'S
OLDEST
INSURANCE
AGENCY

Cash for your IDLE Machinery!



PHONE YARDS 7-5800

Why let unused machinery take up space and cost you money? Turn over your metal-working machines to us at an excellent price. Check your idle equipment today. Give us a description and we will reply promptly with an offer. Act now!

Write, Wire or Phone

INTERSTATE
Machinery Co., Inc.

1443 W. PERSHING ROAD, CHICAGO 9, ILL.
A Single Machine to an Entire Plant Bought or Liquidated

SUBCONTRACT WORK WANTED

The firms on this and the following page have facilities available for subcontract defense work.

Nickel
Brass • Tin
Lead • Zinc
Copper
Cadmium
Oxidizing

Burnishing
Deburring
Acid Dipping

B. MERCIL & SONS PLATING CO.

1901 to 1919 Fulton St. Phone SEeley 3-6102

ELECTRONIC COILS SUB ASSEMBLIES

We have the engineering "know-how" to cooperate with prime contractors in this field.

COILS OF ALL TYPES
RADIO-ELECTRICAL-TELEVISION
WOUND TO YOUR SPECS

The T. J. Houlihan Company
2508 W. Lawrence Ave. LO 1-0580

Available For Sub-Contracts

- METAL STAMPING
- TOOLS & DIES • MACHINISTS
- GENERAL METAL FABRICATION
- TURRET LATHE and SECONDARY OPERATIONS

Blackhawk Machine Co.
656 N. Albany Av. SACRAMENTO 2-3440

Announcing . . . a new and complete Die Casting Service that offers

Quality...Precision
DIE CASTINGS
from blueprints to finished parts
ALUMINUM...ZINC...MAGNESIUM

Modern Plant • Latest Type High Pressure Die Casting Machines • Experienced Personnel • Complete Engineering, Machining, Painting, and Plating Departments. Write for bulletin describing complete facilities.



206 West 83rd Street

Chicago 20, Illinois

**SUB CONTRACTING
WANTED**

Centerless Grinding
Screw Machines to 2 1/4"
Assembly Drilling — Stampings

NATION-BILT, 619 S. Tenth Ave.
Maywood, Ill. Maywood 414

**LIGHT & HEAVY
METAL STAMPINGS**

DIES—TOOLS—JIGS—SPOT WELDING
QUALITY, RELIABILITY, SERVICE
Your product manufactured on contract basis
BUCKINGHAM 1-1215

GREENVIEW MFG. CO.
2557 N. GREENVIEW AVE.

Acorn Screw Products Co.

412 S. Green St. Chicago 7, Ill.
MONroe 6-0434
B. & S. Automatic
Capacity 1/16 to 1 1/4
Second Operation and Assembly

GEORGE COSTELLO**GLASS CO.****LOOP GLAZIERS**

523 S. DEARBORN ST.
CHICAGO, ILLINOIS
HARRISON 7-1419

SCREW MACHINE PRODUCTS

Bar Capacity 1" to 7" Multiple Spindles
Also Secondary Operations
Gear and Sprocket Blanks

MERZ MACHINE & TOOL WORKS
916 N. Main St., Crown Point, Ind.
Chicago Phone: REmington 4-0820

SPINNINGS UP TO 44 INCHES
PRESSES UP TO 110 TONS

ELECTRICAL ASSEMBLY
and LIGHT MANUFACTURING

GARCO MANUFACTURING CO., INC.
744 No. Ada St. MONroe 6-1688

*COMMERCE can
perform a vital
role in any
advertising program
if it seeks
to influence,
convince or sell
management
executives in the
Chicago industrial area.*

WANTED

By Manufacturer of Paints and Varnishes

DEFENSE WORK

OR

SUB-CONTRACTS

TO GOVERNMENT SPECIFICATIONS

Daily Paint Output — 3,000 Gallons

Daily Varnish Output — 4,000 Gallons

GREAT LAKES PAINT & VARNISH COMPANY

2207 No. Crawford Avenue

Chicago 39, Illinois

Phones: SPaulding 2-1240-41-42-43

SPECIALISTS

in Stainless Steel Fabrication, and all other metals.

We specialize in sheet metal work, deep drawing up to 11" deep; various types of stampings and spinnings up to 84" in diameter.

Our facilities also include high temperature annealing, pickling, polishing and many types of welding.

Your inquiry is respectfully solicited.

We also carry a stock line of drawn transformer cans.

**CRAFT MANUFACTURING CO.**

3949 W. SCHUBERT AVE.

CHICAGO 47, ILLINOIS

Advertisers' Index

Agencies listed in italics

September, 1951

| | |
|--|------------------------------------|
| A | K |
| A-Z Letter Service | 55 |
| Acorn Screw Products Co. | 53 |
| Admiral Die Casting Corp. | 52 |
| <i>The Advertising Corp.</i> | |
| Advertising Corp., The | 38 |
| American National Bank & Trust Co. | 25 |
| <i>Albert Frank-Guenther Law Inc.</i> | |
| American Neckwear Mfg. Co. | 10 |
| <i>Food Research & Advertising</i> | |
| Archibald, E. L., Company | 41 |
| Asbestos & Magnesia Materials Co. | 41 |
| B | L |
| Baird & Warner | 46 |
| <i>Bauder-Baker, Inc.</i> | |
| Battey & Childs | 41 |
| Blackhawk Machine Co. | 52 |
| Boynton, A. J., Co. | 42 |
| <i>Marsteller, Gebhardt & Reed, Inc.</i> | |
| Briggs & Turivas, Inc. | 50 |
| C | M |
| Cadillac Glass Co. | 47 |
| <i>Tronnes & Co.</i> | |
| Chicago Association of Commerce and Industry | 44 |
| Chicago Belting Co. | I.F.C. |
| <i>Spaulding Advertising Service</i> | |
| Chicago Electric Co. | 48 |
| <i>Frank J. Slauf</i> | |
| Chicago Extruded Metals Co. | 48 |
| Chicago Name Plate Co. | 55 |
| Chicago Offset Printing Co. | 55 |
| Chicago Planograph Co. | 55 |
| Chicago Tribune | B.C. |
| <i>N. W. Ayer & Son, Inc.</i> | |
| Chicago Wheel & Mfg. Co. | 55 |
| <i>Frank C. Nahser, Inc.</i> | |
| Clearing Industrial District | 3 |
| Commonwealth Edison Co. | 34 |
| <i>J. R. Pershall Company</i> | |
| Conkling, Price & Webb | 36 |
| <i>Vaughan & Spencer, Inc.</i> | |
| Controller Service, Inc. | 55 |
| Costello, George, & Co. | 53 |
| Craft Mfg. Co. | 53 |
| Critchell-Miller Ins. Agcy. | 55 |
| D | P |
| DeLeuw, Cather & Co. | 10 |
| De Paul University | 11 |
| <i>Bisberne Advertising Agency</i> | |
| Doering, C., & Son, Inc. | 35 |
| E | I.B.C. |
| Efengee Electric Supply Co. | 30 |
| <i>Tronnes & Co.</i> | |
| Eggert, Edwin O. | 41 |
| Englewood Electrical Supply Co. | 1 |
| <i>Roy D. Zeff & Associates</i> | |
| F | Peabody Coal Co. |
| Fulton Asphalt Co. | 55 |
| G | Fitzmorris & Miller |
| Garco Mfg. Co. | 53 |
| Gold Seal Liquors, Inc. | 32 |
| Great Lakes Paint & Varnish Co. | 53 |
| Greenview Mfg. Co. | 53 |
| H | Pedersen's Protective Patrol |
| Haines Co., The | 42 |
| Hargrave Secret Service | 55 |
| Harrington, J. J., & Co. | 55 |
| <i>Triangle Adv. Agency, Inc.</i> | |
| Houlihan, T. J., Co. | 52 |
| Hyre Electric Co. | 37 |
| <i>Geo. H. Hartman Co.</i> | |
| I | Territorial Information Department |
| Interstate Machinery Co. | 51 |
| <i>Jones Frankel Company Adv.</i> | |
| Iron Fireman Mfg. Co. | 9 |
| <i>Joseph R. Gerber & Co.</i> | |
| J | United Air Lines |
| James, D. O., Gear Mfg. Co. | 55 |
| <i>Paul Bowman Adv. Agcy.</i> | |
| K | Nation Bilt |
| Kedzie Protective Patrol | 55 |
| Kelso-Burnett Electric Co. | 39 |
| Klein, Mathias, & Sons | 28 |
| Kling Brothers Engineering Wks. | 55 |
| L | Management Control Charts Co. |
| L & N Tool Service | 55 |
| <i>Schnell & Associates Adv.</i> | |
| Lahman, LeRoy J. | 55 |
| Lift Truck Service Co. | 33 |
| Lorenz, George M., Steel Co. | 43 |
| Lou Steel Products | 48 |
| M | Marsh & McLennan, Inc. |
| Management Control Charts Co. | 39 |
| <i>Scantlin & Co.</i> | |
| Marsh & McLennan, Inc. | 33 |
| <i>Doremus & Co., Inc.</i> | |
| Melin, Geo. C., Printing Craftsmen | 35 |
| Mercil, B., & Son Plating Co. | 52 |
| <i>Robert Peterson Adv. Agcy.</i> | |
| Merz Machine & Tool Works | 53 |
| Moore, Case, Lyman & Hubbard | 51 |
| <i>Charles D. Spencer & Asso.</i> | |
| Morrison Hotel | 47 |
| <i>Patton, Hagerty & Sullivan, Inc.</i> | |
| Mueller, V., & Co. | 41 |
| N | North American Life Ins. Co. |
| Nation Bilt | 53 |
| National Pesticide Co. | 55 |
| Nicoud Mfg. Co. | 42 |
| North American Life Ins. Co. | 26 |
| Northwestern University | 4 |
| <i>Foote, Cone & Belding</i> | |
| P | Peabody Coal Co. |
| Pedersen's Protective Patrol | 55 |
| Peoples Gas Light & Coke Co. | 27 |
| <i>Needham, Louis & Brorby, Inc.</i> | |
| Personnel Laboratory, The | 41 |
| Pesticide Co. | 55 |
| Phipps Industrial Land Trust | 40 |
| <i>Jewell F. Stevens Adv. Co.</i> | |
| Portland Cement Association | 49 |
| <i>Roche, Williams & Cleary, Inc.</i> | |
| Prudential Ins. Co. of America | 28 |
| Public Service Company of Northern Illinois | 34 |
| <i>J. R. Pershall Company</i> | |
| R | Roosevelt College |
| Roosevelt College | 6 |
| <i>Frederic R. Kleiman</i> | |
| S | Santa Fe Railway |
| Santa Fe Railway | 31 |
| <i>Leo Burnett Co., Inc.</i> | |
| Sheridan, L. J., & Co. | 8 |
| <i>Albert Frank-Guenther Law Inc.</i> | |
| Sievert Electric Co. | 43 |
| <i>Edgar W. Fischer</i> | |
| Snow, Fred, Steel Treating Co. | 41 |
| Standard Oil Co. | 29 |
| <i>McCann-Erickson, Inc.</i> | |
| Steel Supply Co., The | 26 |
| <i>Jewell F. Stevens Adv. Co.</i> | |
| T | Territorial Information Department |
| Territorial Information Department | 34 |
| <i>J. R. Pershall Company</i> | |
| U | United Air Lines |
| United Air Lines | 2 |
| <i>N. W. Ayer & Son, Inc.</i> | |
| V | Van Vlissingen, J. H., & Co. |
| Van Vlissingen, J. H., & Co. | 40 |
| <i>Jewell F. Stevens Adv. Co.</i> | |
| W | Wabash Railroad Co. |
| Wabash Railroad Co. | 45 |
| <i>Gardner Adv. Co.</i> | |
| Walker-Jimieson, Inc. | 38 |
| Weiss Steel Co., Inc. | 55 |

last year and has enlarged its library facilities. This fall the university will launch its Institute on Soviet Studies which will present courses "designed to promote understanding of the impact of Russian Communism upon the cultures of European nations which have fallen under Soviet domination."

Northwestern is pushing ahead with its \$8,000,000 centennial program designed to strengthen the school's facilities and teaching staff. Loyola has received \$4,000,000 in pledges toward the construction of a \$5,750,000 building to house its medical and dental schools in the vast medical center on Chicago's West Side. Illinois Institute of Technology, meanwhile, is building a new research laboratory and a new chapel, and is planning a new apartment building for students and faculty.

New Graduate Program

Roosevelt College will offer a graduate program for the first time this year. Courses leading to the master's degree will be offered in accounting, chemistry, economics, education, English, history, philosophy, political science, psychology, and social science. More than 100 applications for enrollment in the graduate program have been received. New courses are also being added in the undergraduate division, including a course in television advertising.

Thus, the vision of those who built Chicago's colleges and universities to outstanding leadership has not been lost in presentday problems. Present leaders, despite their day-to-day struggles to keep ahead of threatening deficits, are still looking to the future. They are thinking in terms of new buildings, new courses, expanded research, ever stronger faculties, and graduates who will justify the increasing emphasis on education. In setting up its Centennial plans and objectives, Northwestern University declared that it had two strong convictions: first, that higher education is destined to become an increasingly important agency in national life; second, that "generously minded individuals will support the leadership of the privately controlled university—that type of institution through which they have contributed so much to democratic welfare."

Commerce Classified

MARKET PLACE

Executives — Office Managers — Personnel Directors — Purchasing Agents — Buyers
You'll Profit from Reading and Answering these Advertisements

Advertisements in this section: 20c per word—one time; 15c per word—12 times. Minimum—15 words. Display Classified \$12.50 per inch—one time; \$11.00 six times; \$10.00 twelve times; $\frac{1}{2}$ inch \$7.00 one time; \$6.50 six times; \$6.00 twelve times. Maximum Display Classified Space One Inch. Copy must be received by 15th of previous month to be inserted under proper classification. Terms—Payable in advance unless credit references are approved. Address Classified Department—COMMERCE—One North LaSalle Street—Chicago, Illinois.

ACCOUNTING SYSTEMS

CONTROLLER SERVICE, INC. We help you make a profit with a Modern Accounting and Cost System. Monthly or Weekly Service — 205 W. Wacker Drive, Room 200, Chicago 6, Ill. RAndolph 6-7100.

BUSINESS BROKERS

HARRINGTON

Confidential representation in purchase or sale of GOING BUSINESS CONCERN Any Chicago Bank as Reference 22 West Monroe St. Chicago 3 Financial 6-1322

BUSINESS CARDS

1000 EMBOSSED BUSINESS CARDS \$3.95 (plus sales tax) postpaid. Write for FREE sample and Style Chart. L. Lahman, 5711 Dorechester Ave., Chicago 37.

DETECTIVE AGENCIES

HARGRAVE SECRET SERVICE, General detective business transacted everywhere. Offices open day and night. Executive offices 145 North Clark Street, Chicago, Ill. Telephone CEntral 6-1500. Regional offices, New York City; Miami, Florida; Indianapolis, Indiana; Kansas City, Missouri; Los Angeles, California; San Francisco, California; Milwaukee, Wisconsin.

EXTERMINATORS

Kill'em Quick and Sure
WHITEHALL 4-7392
Commercial, Industrial Plants, Office Buildings, Real Estate Companies, etc.
EXTERMINATING FUMIGATING
Est. 1898 Call Mr. Brown
PESTICIDE CO. 440 N. STATE ST.

FILES — SHARPENING

FILES RESHARPPED LIKE NEW • ALL TYPES!

Unique Precision Method
Finer Quality Lower Cost Work
Guaranteed

L & N TOOL SERVICE
3952 N. Lowell Ave., Chicago 41, Ill.
TEL: MULberry 5-4660

FLOORS—INDUSTRIAL

FULTON ASPHALT CO.

Asphalt Mastic Floors
Acid Proof Mastic Floors
Industrial Composition Floors

165 W. Wacker Drive, Chgo. 1 RAndolph 6-1760
1870 81st Anniversary Year 1951

GEARS

Since 1888 MAKERS OF EVERY TYPE OF GEAR AND GEAR REDUCER

D. O. JAMES GEAR
MANUFACTURING CO.

PHONE CA 6-1800 1140 W. MONROE ST.
CHICAGO

GRINDING WHEELS

Headquarters Since 1895 for MOUNTED WHEELS and GRINDING WHEELS

A Shape and Size to Finish every Kind of Material Faster and Better.
CHICAGO WHEEL & MFG. CO.
1101 W. Monroe St., Dept. C., Chicago 7
Phone CANal 6-8155

INSURANCE

CRITCHELL MILLER INSURANCE AGENCY
EST. 1868
All Forms Insurance
WAbash 2-0340 175 W. Jackson Blvd.

LETTER SERVICE

A-Z LETTER SERVICE

ESTABLISHED 1918

Mimeographing ★ Multigraphing
Planographing ★ Multilith
Addressing ★ Mailing
Direct Mail Campaigns

139 N. CLARK DEarborn 2-1891

LITHOGRAPHERS—OFFSET

CHICAGO OFFSET PRINTING CO. Fine color lithography by the offset process. 610 West Van Buren St., Chicago 7, Illinois. Telephone STate 2-3694.

MACHINERY

KLING BROS.

ENGINEERING WORKS
GENERAL MACHINISTS

Medium and Heavy Work—Special Machinery Structural Bending—Pattern Shop—Repairs
1314 N. Kostner Ave., Chicago 51, Ill.
Telephone CAPitol 7-4200

NAME PLATES

Government Specifications, Standard Finishes, Reliable Service. Chicago Name Plate Co., 1831 W. Columbia Av., Chicago 26, Ill. AMbassador 2-5264.

PLANOGRAPHING

PHONE today MOnroe 6-9721 for reasonable prices on planograph printing. CHICAGO PLANOGRAPH CORPORATION, 1220 W. Van Buren St., Chicago, Illinois.

REAL ESTATE—INDUSTRIAL

Industrial Real Estate

HARRINGTON

Since 1907

22 West Monroe St. Chicago 3
Financial 6-1322

SURPLUS WANTED

WEISS STEEL CO. INC.

600 WEST JACKSON BLVD.

CHICAGO 6, ILLINOIS

Buyers of Surplus Steel Inventories

31 Years of Steel Service

WATCHMEN

UNIFORMED GUARDS

For Factories,
Warehouses, Etc.

Licensed and Bonded Under State of Ill. Established 1919

CARS EQUIPPED WITH TWO WAY RADIO

KEDZIE PROTECTIVE PATROL
301 No. Kedzie Ave. CHICAGO 12
Phone Day and Night—KEdzie 3-5250

PEDERSEN'S PROTECTIVE PATROL

INDUSTRIAL PATROL SERVICE

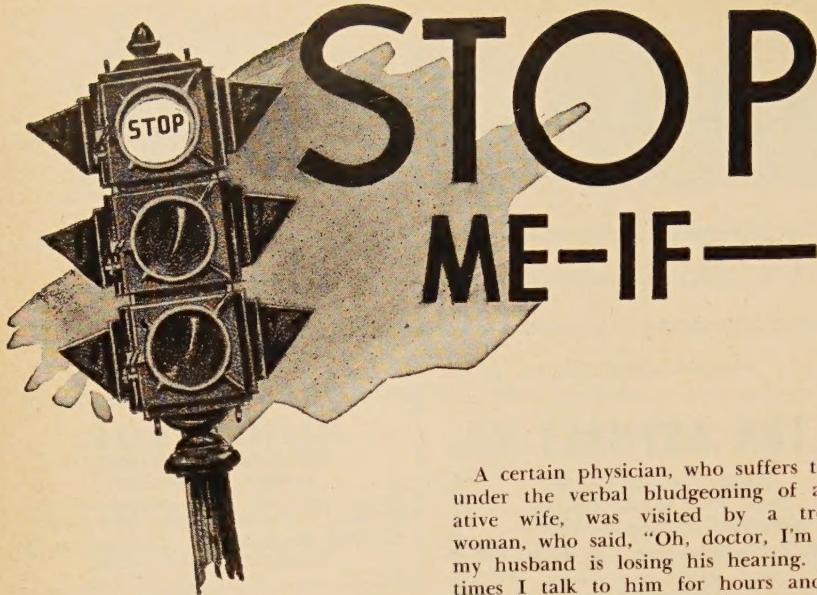
UNIFORMED WATCHMEN

Insured — Carefully Supervised — Union

INDUSTRIAL CLEANING SERVICE

For FACTORIES & OFFICES

Phone any time: TUXedo 9-6670
5967 W. Madison St. Chicago 44



Two little flies were strolling along the ceiling of a New York penthouse apartment. "You know," remarked the first little fly, "human beings are so silly!"

"People are silly?" replied the second little fly. "How do you figure that?"

The first little fly shrugged his wings. "Just take a good look," he chirped. "They spend good money building a nice high ceiling, and then they walk on the floor."

* * *

The new minister was enthusiastic about foreign missions, and one of his first tasks was to call upon parishioners whom he knew to have money and enlist their support.

"I'm sorry," replied a wealthy farmer, "but it's no use asking me. I don't believe in foreign missions."

"But surely," the minister persisted, "you know we are commanded to feed the hungry."

"That may be," came the grim reply, "but can't we feed 'em on something cheaper than missionaries?"

* * *

Sunday School Teacher: ". . . and that is the story of Jonah and the whale. Now, Willie, what does this story teach us?"

Willie: "It teaches that you can't keep a good man down."

* * *

Actor (modestly): "As a matter of fact, I have letters from ladies in almost every place in which I have appeared."

Rival: "Landladies, I presume."

* * *

The young recruit was the victim of so many practical jokes that he doubted all men and their motives. One night while on guard, the figure of one of the officers loomed up in the darkness.

"Who goes there?" he challenged.

"Major Moses," replied the officer.

The recruit sensed a joke. "Glad to meet you, Moses," he said cheerfully. "Advance and give the Ten Commandments."

"A fifth of Scotch—never mind wrapping it," ordered the man, hurrying to the bartender. He paid for it and went out.

In a few minutes he was back. "Can you give me another fifth of Scotch?"

"Why sure," said the bartender, puzzled but again handing him an unwrapped bottle. Overcome by curiosity, he followed his eager customer out. At the curb was a horse hitched to a buggy. His customer poured the Scotch into the pail and offered it to the horse. The horse drank eagerly.

"Well, I'll be darned," said the bartender, "I never saw a horse drink Scotch before. Just for that I want to buy you a drink. What do you say?"

"Can't do it. I'm driving."

* * *

Used to be that a schoolboy just got 'lickin' when he brought home an examination paper with low grades. Nowadays he gets drafted.

* * *

The little boy sat gazing into space. His father said, "Junior, a penny for your thoughts."

"Well, to be honest, daddy," he said, "I was thinking of a dime."

* * *

A tramp called at a home and asked for a handout.

"And how would you like a nice chop?" asked the kindly housewife.

"That all depends," said the tramp. "Is it pork, lamb, or wood?"

* * *

Young Actor: "I've got a job at last. Dad. It's a new play, and I play the part of a man who has been married 23 years."

Father: "Splendid. That's a start anyway, my boy. Maybe one of these days they'll give you a speaking part."



"If she's sitting on my disintegrator gun there's going to be trouble!"